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TEACHING STUDENTS WITH AUTISM

A Resource Guide for Schools

BRITISH COLUMBIA

Ministry of Education
Special Programs Branch
2000

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Table of Contents

Introduction 1

Chapter 1. What is Autism? 3

Chapter 2. Characteristics Associated With Autism 9

Chapter 3. Planning Support for Students With Autism 21

Chapter 4. Teaching Students With Autism 27

Chapter 5. Managing Challenging Behaviour 57

Chapter 6. Teaching Students With Asperger's Syndrome 71

Chapter 7. Transition Planning 77

Chapter 8. Pulling It All Together: Developing an IEP 85

Chapter 9. Case Studies 87

Appendix 111

Resources 121

References and Additional Resources 129

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INTRODUCTION

In 1999, the Government of British Columbia developed a provincial Autism Action Plan. As part of this plan, the Ministry of Education made a commitment to provide schools across the province with a resource on the topic of students with autism. *Teaching Students With Autism: A Resource Guide for Schools* fulfils the ministry's commitment. The resource guide is based on work done by Saskatchewan Education for its resource, *Teaching Students With Autism: A Guide for Educators*, and on contributions from teachers, consultants, and parents in B.C.

Teachers and other educational staff in our schools face the challenge of planning and implementing effective education programs for all students, including students with autism. This resource guide is intended to support educators in this process. There is an abundance of recent research and excellent materials developed for teachers and other service providers who are supporting children and youth with autism and their families. Because of the volume of available material, this brief resource guide cannot begin to cover all of the ideas about teaching students with autism; however, the guide attempts to describe the key ideas and teaching methods. Teachers who want more suggestions can use the many references in the text and in the resource section to find more comprehensive information on autism research and instructional techniques.

Teaching Students with Autism: A Resource Guide for Schools is divided into the following chapters:

- What Is Autism?—the nature of the disorder and how it is diagnosed
- Characteristics of Autism—the effects of autism and general educational implications
- Planning Support for Students With Autism—roles of people involved in planning and suggested elements of individual education plans (IEPs)
- Teaching Students With Autism—more detailed suggestions for instructional approaches and strategies for classroom management, communication development, and social skills
- Managing Challenging Behaviour—suggestions for developing a behaviour plan and strategies for supporting behaviour change

- Teaching Students With Asperger's Syndrome—educational implications and suggested teaching strategies
- Transition Planning—suggestions for planning transitions: into the school system; between classes, programs, or schools; between activities; and into adult life
- Pulling It All Together—a model for developing a plan for a student with autism
- Case Studies—three examples of students with autism and their IEPs

The last section of the resource guide consists of a list of helpful resources, including consultative and support services, organizations, Internet sites, print materials, and videos. Additional resources and references used in the development of the resource guide are also included, for those interested in obtaining additional information on autism.

What is Autism?

Autism is a life-long developmental disability that prevents people from understanding what they see, hear, and otherwise sense. This results in severe problems with social relationships, communication, and behaviour.

The *Diagnostic and Statistical Manual of Mental Disorders*, DSM-IV (American Psychiatric Association, 1994) defines autism as a pervasive developmental disorder characterized by:

- impairments in communication and social interaction, and
- restricted, repetitive, and stereotypic patterns of behaviour, interests, and activities.

It is a complex neurological disorder that affects the functioning of the brain.

Autism symptoms can be present in a variety of combinations and may accompany other disabilities. Some people with autism have normal levels of intelligence, while most people with autism have some level of intellectual disability, ranging from mild to severe. This range is often referred to as high-functioning autism to low-functioning autism.

There may be a range of difficulties in expressive and receptive language and communication. It is estimated that up to 50% of people with autism do not develop functional speech. For those who do, speech may have unusual qualities and have limited communicative functions.

All people with autism have difficulties with social interaction and behaviour, but the extent and type of difficulty may vary. Some individuals may be very withdrawn, while others may be overly active and approach people in peculiar ways. They have problems with inattention and resistance to change. They often respond to sensory stimuli in an atypical manner and may exhibit odd behaviours such as hand flapping, spinning, or rocking. They may also demonstrate unusual uses of objects and attachments to objects.

Although people with autism share some common features, no two individuals are the same. In addition, the pattern and extent of difficulties may change with development. The common characteristics help us to understand general needs associated with autism, but it is important to combine this information with knowledge of the specific interests, abilities, and personality of each student.

Bristol, M. M., et al., "State of the science in autism: Report to the National Institutes of Health," *Journal of Autism and Developmental Disorders*, 26, 1996.

Minshew, N. J., et al., "Neurological aspects of autism," in *Handbook of Autism and Pervasive Developmental Disorders* (2nd ed.), 1997.

Prevalence of autism

The generally accepted prevalence rate for autism has been between four and five in every 10,000 births. However, some recent estimates suggest a rate of about 10 in 10,000 or 0.1% of children or more, when a broader spectrum of disorders is included. There is a higher prevalence among males. The ratio varies depending on the definition, but studies reveal a male-to-female ratio of between 3:1 and 4:1.

Bristol, M. M., et al., "State of the science in autism: Report to the National Institutes of Health," *Journal of Autism and Developmental Disorders*, 26, 1996.

Bryson. S. E., et al., "Epidemiology of autism: Overview and issues outstanding," in *Handbook of Autism and Pervasive Developmental Disorders* (2nd ed.), 1997.

Causes of autism

The cause or combination of causes of autism is not fully known. There is growing evidence that autism is a genetic condition, and that there are likely several different genes involved. The mode of genetic transmission appears complex, and scientists are focusing their work on finding which genes may be involved and how these genes are affected. So far, it appears that for at least a significant subgroup of persons with autism, there is a genetic susceptibility which differs across families (that is, different genes may be responsible in different families).

There is also evidence that there may be a higher prevalence among children with autism of problems very early in the mother's pregnancy, at birth, or even after birth than for children who do not have autism. Early life events and environmental factors may interact significantly with genetic susceptibility in the child.

Recently, various types of investigations, including imaging studies, electro-encephalographic studies, tissue studies on autopsy material, and neuro-chemical studies, have provided further evidence of a biological basis for autism. The brains of individuals with autism appear to have some structural and functional differences from the brains of other people. Anomalies in the brain stem and cranial nerves have been found. Ongoing research may one day pinpoint the exact genes and other conditions that combine to cause autism.

Szatmari, P., et al, "Genetics of autism: Overview and new directions," *Journal of Autism and Developmental Disorders*, 23, 1998.

Rodier, P., "The early origins of autism," *Scientific American*, January, 2000.

Diagnosis of autism

The diagnosis of autism is made by a physician or clinical psychologist with expertise in the area of autism. Assessment and diagnosis ideally should involve a multidisciplinary team that includes a pediatrician or psychiatrist, a psychologist, and a speech and language pathologist. The psychologist often administers assessments to gather information about developmental level and behaviour, and the speech and language pathologist assesses speech, language, and communicative behaviours. A medical assessment is conducted to rule out other possible causes for the symptoms, as many of the characteristics associated with autism are also present in other disorders. A medical and developmental history is taken through discussion with the parents. This information is combined with the other assessments to provide the overall picture and to rule out other contributing factors.

Parents who are seeking additional information regarding assessment and diagnosis should contact health professionals in their community.

Professionals diagnose autism through the presence or absence of certain behaviours, characteristic symptoms, and developmental delays. The criteria for autism are outlined in the *DSM-IV* and the *International Classification of Diseases* (World Health Organization, 1993).

The *DSM-IV*, which is most commonly used in North America, classifies autism as a disorder within a broader group of pervasive developmental disorders (PDD). PDD is an umbrella term for disorders that involve impairments in reciprocal social interaction skills, communication skills, and the presence of stereotypical behaviours, interests, and activities. The conditions classified as PDD in the *DSM-IV* are:

- Autism
- Childhood Disintegrative Disorder (CDD)
- Retr's Disorder
- Asperger's Disorder
- Pervasive Developmental Disorder Not Otherwise Specified (PDD-NOS)

Some of these diagnostic terms appear to be used interchangeably within the literature and by practitioners. The term *Autism Spectrum Disorders* is sometimes used to refer to autism and other conditions included within the PDD classification. PDD is sometimes used to refer

to all conditions within the category of PDD, and at other times it has been used to refer to PDD-NOS. This confusion of terminology can be a problem when people from different disciplines are working together to support students.

The *DSM-IV* criteria for autism are included below.

Criteria for autistic disorder in the DSM-IV (299.00)

A.. A total of at least six items from (1), (2), and (3), with at least two from (1), and one from (2) and (3):

(1) Qualitative impairment in social interaction, as manifested by at least two of the following:

(a) Marked impairment in the use of multiple non-verbal behaviours such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction

(b) Failure to develop peer relationships appropriate to developmental level

(c) Markedly impaired expression of pleasure in other people's happiness.

(2) Qualitative impairments in communication as manifested by at least one of the following:

(a) Delay in, or total lack of, the development of spoken language (not accompanied by an attempt to compensate through alternative modes of communication such as gestures or mime)

(b) In individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others

(c) Stereotyped and repetitive use of language or idiosyncratic language

(d) Lack of varied spontaneous make-believe play or social imitative play appropriate to developmental level.

(3) Restricted repetitive and stereotyped patterns of behaviour, interests, and activities, as manifested by as least one of the following:

(a) Encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus

(b) Apparently compulsive adherence to specific nonfunctional routines or rituals

(c) Stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)

(d) Persistent preoccupation with parts of objects.

B. Delays or abnormal functioning in at least one of the following areas, with onset prior to age three years:

(1) social interaction,

(2) language as used in social communication, or

(3) symbolic or imaginative play.

C. Not better accounted for by Rett's Disorder or Childhood Disintegrative Disorder.

Reprinted, with permission, from the *Diagnostic and Statistical Manual of Mental Disorders*, 4th Edition, (1994). Washington, DC: American Psychiatric Association, pp. 70–71.

Other Pervasive Developmental Disorders

All of the disorders within the PDD classification have some common features, and children with these disorders may benefit from similar instructional strategies. However, there are differences in some areas, such as the number of symptoms, age of onset, and developmental pattern.

In British Columbia, students who have developmental disorders but are not diagnosed as autistic may be identified for special education funding purposes in the category that best reflects their medical condition and the type and intensity of educational interventions required. In come cases, the appropriate category may be "Students With Intellectual Disabilities." In others, it may be "Severe Behaviour Disorders," "Moderate Behaviour Disorders," or "Physical Disabilities/Chronic Health Impairments." Some students may meet the ministry criteria for "Severe Learning Disabilities."

For more information on special education categories in B.C., see the Ministry of Education document *Special Education Services: A Manual of Policies, Procedures and Guidelines*, 1995.

Asperger's syndrome

Asperger's syndrome shares many of the features of autism. People with Asperger's syndrome have disabilities in the areas of social interaction and stereotypical behaviour patterns. For this reason, Chapter 6 of this resource guide contains specific information about the characteristics of students with Asperger's syndrome and suggestions for classroom strategies.

The main differences between students with autism and those with Asperger's syndrome is that children with AS do not have clinically

significant delays in early language development or significant delays in cognitive development. They usually do not have the same degree of difficulty as those with autism in the development of age-appropriate self-help skills, adaptive behaviour, and curiosity about the environment in childhood.

The *DSM-IV* uses the term *Asperger's Disorder*. This resource guide uses the term Asperger's syndrome, which is consistent with current literature in the area.

See Chapter 6, *Teaching Students With Asperger's Syndrome*, for more information.

Characteristics Associated with Autism

Chapter Two

Although every person with autism is unique, some characteristics are considered to be particularly important in the diagnosis of autism. These fall into four major categories:

- communication characteristics
- social interaction characteristics
- unusual behaviour characteristics
- learning characteristics

Other characteristics of behaviour and learning of students with autism can be categorized as:

- unusual patterns of attention
- unusual responses to sensory stimuli
- anxiety

This chapter addresses these seven categories and outlines instructional implications for each. Later chapters offer more detailed suggestions for teaching students with autism.

Indiana Resource Centre for Autism, *Autism Training Sourcebook*, 1997.

Communication

All people with autism experience language and communication difficulties, although there are considerable differences in language ability among individuals. Some are non-verbal while others may have extensive language with deficits in the area of pragmatics (the social use of language). People with autism may seem caught up in a private world in which communication is unimportant. This is not an intentional action but rather an inability to communicate.

Language difficulties that may be present include:

- difficulties with non-verbal communication:
  - inappropriate facial expressions
  - unusual use of gestures
  - lack of eye contact
  - strange body postures

Koegel, R. L., et al., "Emerging interventions for children with autism," in *Teaching Children With Autism: Strategies for Initiating Positive Interactions and Improving Learning Opportunities*, 1995.

Lindblad, T., "Language and communication programming and intervention for children with autism and other related pervasive developmental disorders," 1996.

- lack of mutual or shared focus of attention
- delay in or lack of expressive language skills
- significant differences in oral language, for those who do develop language:
  - odd pitch or intonation
  - faster or slower rate than normal
  - unusual rhythm, or stress
  - monotone or lilting voice quality
- repetitive and idiosyncratic speech patterns
- echolalic speech, immediate or delayed literal repetition of the speech of others:
  - appears to be non-meaningful, but may indicate an attempt to communicate
  - indicates the ability to produce speech and to imitate
  - may serve a communication or cognitive purpose for the student
- restricted vocabulary:
  - dominated by nouns
  - often confined to requests or rejections to regulate one's physical environment
  - limited in social functions
- tendency to perseverate on a topic—that is, to continually discuss one topic and have difficulty changing topics
- difficulty with pragmatics of conversation:
  - problems initiating the communication
  - difficulty using unwritten rules
  - inability to maintain conversation on a topic
  - inappropriate interrupting
  - inflexibility in style of conversation, stereotypic style of speaking

"The student may be using echolaic utterances to rehearse what is heard in order to process the information, or as a strategy for self-regulation."

B. Prizant & J. Duchan, "The functions of immediate echolalia in autistic children," *Journal of Speech and Hearing Disorders*, 46, 1981

Quill, K. A., "Visually cued instruction for children with autism and pervasive developmental disorders," *Focus on Autistic Behaviour*, 110 (3), 1995.

People with autism often have difficulty in comprehending verbal information, following long verbal instructions, and remembering a sequence of instructions. The comprehension of language may be context-specific. The extent of difficulty will vary among individuals, but even those who have normal intelligence, usually referred to as high-

functioning, may have difficulty with comprehension of verbal information.

Implications for instruction

Effective programs for students with autism and other pervasive developmental disorders include comprehensive communication assessment and intervention. This typically involves assessment by a speech and language pathologist as well as informal observation and classroom-based evaluation. The assessment serves as the basis for the identification of goals, objectives, and strategies for facilitating development of receptive language and expressive skills, particularly with pragmatic skills. Instruction should emphasize paying attention, imitating, comprehending, and using language in play and social interaction. Communication goals should emphasize the functional use of language and communication in various settings.

For more information on teaching communication skills, see Chapter 4, *Strategies for Communication Development.*

Social interaction

Students with autism demonstrate qualitative differences in social interaction and often have difficulty establishing relationships. They may have limited social interactions or a rigid way of interacting with others. The difficulties they have with social communication should not be seen as a lack of interest or unwillingness to interact with others; this lack of effective communication may result from an inability to distill social information from the social interaction and use appropriate communication skills to respond.

"One must separate the variables of social interaction problems from emotions. People with autism desire emotional contact with other people but they are stymied by complex social interaction."

Temple Grandin, *Thinking in Pictures and Other Reports From My Life With Autism*, 1995, p. 44

Understanding social situations typically requires language processing and non-verbal communication, which are often areas of deficit for people with autism. They may not notice important social cues, and may miss necessary information. People with autism typically have an impairment in the use of non-verbal behaviours and gestures to regulate social interaction, and they may have difficulty reading the non-verbal behaviour of others.

People with autism have significant difficulty with any interaction that requires knowledge of other people and what they think or know. It has been theorized that people with autism have a social cognitive deficit in this area. Baron-Cohen has described this as the "theory of mind":

For more information on teaching social communication, see Quill, K. A., *Teaching Children with Autism: Strategies to Enhance Communication and Socialization*, 1995.

people with autism are not able to understand the perspective of others, or even to understand that other people have a perspective that could be different from their own. They may also have difficulty understanding their own—and particularly other people's—beliefs, desires, intentions, knowledge, and perceptions. Students with autism often have problems understanding the connection between mental states and actions. For example, children with autism may not be able to understand that another child is sad—even if that child is crying—because they are not themselves sad.

Sigman, M., et al., "Cognition and emotion in children and adolescents with autism," in *Handbook of Autism and Pervasive Developmental Disorders* (2nd ed), 1997.

Howlin, P., et al., *Teaching Children with Autism to Mind Read: A Practical Guide*, 1999.

Teachers may better understand the thinking and behaviour of their students with autism if they realize that these students may not be able to grasp the fact that other people have their own perceptions and viewpoints. Students with autism demonstrate these difficulties in a variety of observable ways. They have a tendency to play with toys and objects in unusual and stereotypical ways. Some may engage in excessive or inappropriate laughing or giggling. Play that does occur often lacks the imaginative qualities of social play. Some children with autism may play near others, but do not share and take turns, while others may withdraw entirely from social situations.

The quality and quantity of social interaction occurs on a continuum. Social interaction can be classified into three subtypes along this continuum:

- aloof—those who show no observable interest or concern in interacting with other people except for those needed to satisfy basic personal needs; they may become agitated when in close proximity to others and may reject unsolicited physical or social contact
- passive—those who do not initiate social approaches, but will accept initiations from others
- active but odd—those who will approach for social interaction but do so in an unusual and often inappropriate fashion

It should be noted that people with autism do not necessarily fall into one distinct spot on the continuum.

Wing, L. and Gould, J., "Severe impairments of social interaction and associated abnormalities in children: Epidemiology and classification," *Journal of Autism and Developmental Disorders*, 9, 1979.

Implications for instruction

Social skill development is essential for students with autism, and it is an important component in developing plans for managing challenging behaviours. Students with autism do not learn social skills incidentally by observation and participation. It is generally necessary to target

specific skills for explicit instruction and to provide support for using the skills in social situations.

Additional information is provided in Chapter 4, *Strategies for Social Skills Training*.

Unusual behaviour

People with autism often demonstrate unusual and distinctive behaviours, including:

- restricted range of interests, and a preoccupation with one specific interest or object
- inflexible adherence to a non-functional routine
- stereotypic and repetitive motor mannerisms, such as hand flapping, finger flicking, rocking, spinning, walking on tiptoes, spinning objects
- preoccupation with parts of objects
- fascination with movement, such as the spinning of a fan, or turning wheels on toys
- insistence on sameness and resistance to change
- unusual responses to sensory stimuli

Implications for instruction

Many of the odd and stereotypical behaviours associated with autism may be caused by other factors, such as a hyper-sensitivity or hypo-sensitivity to sensory stimulation, difficulties in understanding social situations, difficulties with changes in routine, and anxiety. The instructional plan needs to incorporate strategies for expanding the student's interests, developing skills, understanding the student's responses to sensory stimuli, and preparing the student for planned changes.

In planning instruction, teachers need to consider the problematic behaviour and its function for that particular child—for example, gaining attention or avoiding something. It may not be possible to eliminate all repetitive behaviours. Successful teaching strategies for supporting students with autism often focus on making environmental adaptations to decrease an inappropriate behaviour, and/or helping the student to learn another more appropriate behaviour that will serve the same function.

Additional information is provided in Chapter 5, *Managing Challenging Behaviours.*

Learning

People with autism have a psycho-educational profile that is different from normally developing individuals. Studies show that there may be deficits in many cognitive functions, yet not all are affected. In addition, there may be deficits in complex abilities, yet the simpler abilities in the same area may be intact. Current research identifies the following cognitive features associated with autism:

- deficits in paying attention to relevant cues and information, and in attending to multiple cues
- receptive and expressive language impairments, particularly the use of language to express abstract concepts
- deficits in concept formation and abstract reasoning
- impairment in social cognition, including deficits in the capacity to share attention and emotion with others, and to understand the feelings of others
- inability to plan, organize, and solve problems

Minshew, N. J., *Autism as a Selective Disorder of Complex Information Processing*, 1998.

Some students with autism have stronger abilities in the areas of rote memory and visual-spatial tasks than they have in other areas. They may actually excel at visual-spatial tasks, such as putting puzzles together, and perform well at spatial, perceptual, and matching tasks. Some may be able to recall simple information, but have difficulty recalling more complex information.

Strength in visual-spatial skills has been described in personal accounts of individuals with autism. Temple Grandin suggests that some people with autism can more easily learn and remember information that is presented in a visual format, and that they may have problems learning about things that cannot be thought about in pictures. She explains that she has a visual image for everything she hears and reads, and that she "thinks in pictures."

"When I was a child and a teenager, I thought everybody thought in pictures. I had no idea that my thought processes were different."

Temple Grandin, *Thinking in Pictures and Other Reports From My Life With Autism*, 1995, p.20

Students with autism may have difficulty comprehending oral and written information—for example, following directions or understanding what they read. Yet some higher-functioning individuals may be relatively capable of identifying words, applying phonetic skills, and knowing word meanings.

Some students may demonstrate strength in certain aspects of speech and language, such as sound production (phonology), vocabulary, and simple grammatical structures (syntax), yet have significant difficulty carrying on a conversation and using speech for social and interactive purposes (pragmatics).

A student who is high-functioning may perform numerical computations relatively easily, but be unable to solve mathematical problems.

Implications for instruction

These cognitive variations result in patterns of strengths and weaknesses in a student's academic performance, social interaction, and behaviour. Development of cognitive skills is usually uneven. The education program planned for the student should therefore be based on the unique combination of strengths and needs of that individual.

The professional literature on autism has documented deficits in attention and language development, problems in concept formation, and difficulties with memory for complex information. These characteristics, considered in combination with personal accounts of how individuals with autism are more visually oriented, suggest that visual material should be incorporated when teaching individuals with autism.

Suggestions for instructional strategies are provided in Chapter 4, *Teaching the Student with Autism*.

Unusual patterns of attention

People with autism often demonstrate unusual patterns of attention. Students can have a range of difficulties in this area. These have major implications for effective communication, social development, and attainment of academic skills.

Students with autism often have difficulty paying attention to relevant cues or information in their environment and may focus their attention only on a restricted part of the environment, to the exclusion of what is relevant. For example, a student may look at the ball but not at the person to whom the ball is to be thrown. Or a child may notice the insignificant details such as the staple in the corner of a paper, but not the information on the paper. This is referred to as *stimulus overselectivity*. Another feature of autism is an impairment in the capacity to share attention between two things or people, which is referred to as *joint attention*.

Students may also have difficulty disengaging and shifting attention from one stimulus to the next, which may contribute to the characteristic rigidity and resistance to change. They may also demonstrate a short attention span.

Implications for instruction

Rosenblatt, J., et al., "Overselective responding: Description, implications, and intervention," in *Teaching Children With Autism: Strategies for Initiating Positive Interactions and Improving Learning Opportunities*, 1995.

Difficulties with attending may significantly influence the student's ability to develop effective social behaviour and language. For example, students with autism may respond to irrelevant social cues that have caught their attention, or they may attend to limited portions of a conversation and not understand the intent of what is being communicated. They may not attend to multiple cues in speech and language and so miss the important subtleties of the message.

Information presented to students with autism and instructional activities planned for them should be provided in a format that is clear, focusses their attention, and emphasizes the most relevant information. Individualized strategies for focussing the student's attention can be developed as part of the instructional plan. (See Chapter 4, *Teaching Students with Autism*, for suggestions.) Parents can provide valuable information when they share their methods of helping their children focus on things they need to learn. Ideally, the plan will include helping the student to manage these strategies themselves eventually.

Unusual responses to sensory stimuli

Awareness of different sensory experiences is central to understanding behaviours and planning programs for students with autism.

Students with autism usually differ from others in their sensory experiences. Responses to sensory stimulation may range from hyposensitivity to hypersensitivity. In some cases, one or more of the person's senses is either under-reactive (hyporeactive) or over-reactive (hyperreactive). Environmental stimuli may be disturbing or even painful to someone with autism. This may apply to any or all types of sensory input. Personal accounts of autism have emphasized this.

The other characteristics associated with autism may be caused, in part, by a disorder in sensory processing. The extent to which sensory problems may contribute to other characteristics associated with autism is not certain. However, there is sufficient information to suggest that consideration be given to both the type and amount of sensory stimulation in the environment, and the individual's reaction to it.

Tactile system

The tactile system includes the skin and the brain. Information can be gathered by the skin through touch, temperature, and pressure. This information is interpreted by the person as pain, neutral information, or pleasure. The tactile system allows us to perceive and respond appropriately to our environment and have the appropriate reaction for survival. We pull away from something that is too hot and might harm us. We respond with pleasure to the warmth and pressure of a hug.

When students with autism are affected in the tactile system, they may withdraw when touched. This is called *tactile defensive*. They may overreact to the texture of objects, clothing, or food. The inappropriate response is the result of the person's tactile misperception, which can lead to behavioural problems, irritability, or withdrawal and isolation. Although some sources of stimulation may cause avoidance, other types and/or amounts of stimulation may have a calming effect.

Auditory system

Indiana Resource Center for Autism, *Autism Training Sourcebook*, 1997.

Students with autism may be hyposensitive or hypersensitive to sounds. Parents and teachers report that seemingly innocuous sounds can cause extreme responses in some children with autism. This can be particularly problematic in a school setting, which normally includes so many different sounds. The scraping of a chair, bells between classes, intercom announcements, and sounds of machinery fill a normal school day. People with autism report that such sounds seem excruciatingly intense to them.

Visual and olfactory systems

Different responses to sensory stimuli may also be apparent in a student's reaction to visual information and smells. Some students may react to odours such as perfumes and deodorants. Others may use smell to seek out information about the surroundings in ways that we do not ordinarily expect.

Some students with autism cover their eyes to avoid the effect of certain lighting, or in response to reflections or shiny objects, while others seek out shiny things and look at them for extended periods of time.

"As I walk down the street, I know what everyone is having for dinner by the smells coming from the houses."

—A 14-year-old boy with Asperger's syndrome

Vestibular and proprioceptive systems

The inner ear contains structures that detect movement and changes in position. This is how people can tell that their heads are upright, even with closed eyes. Students with autism may have differences in this

orienting system so that they are fearful of movement and have trouble orienting themselves on stairs or ramps. They may seem strangely fearful or clumsy. The opposite is also true. Students may actively seek intense movement that upsets the vesticular system, such as whirling, spinning, or other movements that others cannot tolerate.

Through information derived from muscles and other body parts, people automatically know how to move or adjust positions efficiently and smoothly. Students who have problems integrating the body's information have odd posture and may appear clumsy or sloppy.

Implications for instruction

These unpleasant or aversive sensory experiences may contribute to some of the inappropriate behaviours that individuals with autism display. For example, people with severe sensory processing problems may entirely shut down to avoid aversive stimuli or over-stimulation. Tantrums may be related to the desire to escape situations that are over-stimulating. Self-stimulating behaviours may help the individual calm down when stimuli become overwhelming, by generating a self-controlled, repetitive stimulus.

For more information on sensory integration, see Yack, E., et al., *Building Bridges Through Sensory Integration*, 1998.

Being aware of different experiences of sensory stimulation and integration is an important part of understanding behaviours of students with autism and planning programs for them. Teachers and families can work together to assess sensory responses and implement strategies to enhance them when the student is hyporesponsive, and to calm them when the student is hyper-responsive.

Anxiety

Anxiety is not identified in the *DSM-IV* criteria. However, many people with autism, as well as their parents and teachers, identify anxiety as a characteristic associated with autism. This anxiety may be related to a variety of sources, including:

- inability to express oneself
- difficulties with processing sensory information
- fearing some sources of sensory stimulation
- high need for predictability, and having difficulty with change
- difficulty understanding social expectations

- fearing situations because they are not understood

Implications for instruction

Programs for students with autism often need to address anxiety, and what seems to contribute to it. Changes and adaptations can be made within the environment to reduce anxiety-arousing situations, and a variety of strategies can be used to help the individual to manage anxiety and cope with difficult situations.

See Chapters 4, 5, and 6 for suggestions.

For more information on autism and anxiety, see Harrington, K., *Autism: For parents and professionals*, 1998.

Planning Support for Students with Autism

Chapter Three

Developing the Individual Education Plan

Planning the instructional program for students with autism is complex, because these students have significant differences from most other students in learning style, communication, and social skill development, and often have challenging behaviours. There is considerable individual variability in how these characteristics affect a particular person.

Programs must be individualized and based on the unique needs and abilities of each student. Knowing how the student's ability to process information and communicate are affected by autism is critically important to planning.

A student's education program could include a combination of instructional activities from the regular curriculum as well as activities based on goals and objectives that are unique to the individual and set out in an Individual Education Plan (IEP).

For a useful resource on developing an effective planning process by involving family along with other team members, see Giangreco, M., et al., *Choosing Outcomes and Accommodations for Children (COACH): A Guide to Educational Planning for Students with Disabilities*, 1997.

The IEP is developed through collaboration by a team of people directly involved with the student, such as the classroom teacher, parents, the student if appropriate, and special education teacher. In some cases, planning involves others, such as teacher assistants, speech and language pathologists, behaviour consultants, and school psychologists. It is important for school staff to be aware of interventions being used to support the student, so that the school program can be as congruent as possible with that program or therapy. Because students with autism have difficulty with change, it is important to try to plan so that supports complement each other.

The needs of some students with autism and the support required to meet those needs sometimes go beyond the mandate of the school system. To be most efficient and have the best outcomes for students, a collaborative approach among all those working to support them is desirable. Some school districts have found it helpful to develop protocols with local agencies for how they will work together in order to plan supports for students and their families. Such protocols deal with areas such as information sharing, communication methods, meeting locations, and areas of responsibility. Such issues as service providers from outside the school working with the student in school can be dealt with smoothly when there is a protocol. For more information on

integrating planning, see the "Integrated case management" section, below.

For more information on IEPs, see the British Columbia Ministry of Education handbook *Individual Education Planning for Students with Special Needs: A Resource Guide to Support Teachers*, 1995.

Contents of an Individual Education Plan (IEP)

The written IEP is intended to guide the work of educators and to provide information on the types of modifications, adaptations, strategies, and services that will be used to support the student. Effective IEPs include:

1 Personal and educational data, including assessment information

2 Information about the student's strengths and needs

3 Long-term goals and short-term goals and objective. The long-term goals include the future vision for the student as an adult. Short-term goals and objectives can be related to the regular curriculum or developed as individualized goals organized into developmental domains such as the following:

- communication, including the development of expressive skills through speech and/or augmentative systems, development of receptive language, and pragmatic skills
- socialization, development of social skills
- behaviours, appropriate to a variety of contexts and situations
- functional skills for independent living
- level of the student

4 Transition goals and objectives, including vocational skills

5 Resources and strategies that will be used in working toward the goals and objectives

6 How the student's progress will be assessed and evaluated

7 Assignment of responsibility for carrying out specific aspects of the plan, with the level of service and who will carry it out

8 A process for review and evaluation of the plan, at least annually

The IEP is a broad plan, not intended to delineate the daily instructional activities for the student. It is reasonable to expect that the IEP may need to be revised throughout the year, to increase the effectiveness of the student's support program, as the student and teachers become more familiar with one another and as changes take place. Flexibility in implementing the IEP during the school year is needed to accommodate changes in such things as the student's

behaviour or other needs. For an example of how to integrate the implementation of goals in an IEP with regular class activities, see the Appendix.

When developing a student's IEP, it is important to plan adaptations to instruction, classroom environment, and classroom management that address the needs of the student and that will enable him or her to function optimally in the classroom. Communication and social skills are key areas of development for students with autism and must be addressed in the plan.

See Chapter 8, *Pulling It All Together*, which is a framework for developing an IEP for students with autism.

Roles and responsibilities

Effective planning for supporting students with autism and their families is important. The student's needs for support may go beyond the mandate of the school system. The following roles will be important in this planning:

School principals—The duties of principals include implementing education programs for all students in the school; assigning staff; allocating resources within a school; and ensuring that teachers have the information they need to work with students assigned to a class or program. Principals can facilitate the collaboration of school-based teams in supporting students with special needs.

Classroom teachers—Teachers are responsible for the education programs of all students in their classes. When a student with autism needs specialized programming and instruction, teachers need to work collaboratively with available specialists to ensure that there is a well-planned, co-ordinated approach.

Specialist teachers—Teachers with special training in working with students who have complex special needs support classroom teachers. Specialist teachers have expertise in behaviour management and development of social skills. In some cases, the specialist teacher may be a resource teacher with special training in behaviour or communication. For some students with autism, the resource teacher may provide direct instruction, while in other cases, specialist teachers provide consultative support for classroom teachers who have a student with autism in the regular class.

Speech and language pathologists (SLPs)—Speech and language pathologists have specialized training in assessing communication needs and

designing programs to improve communication. Because communication difficulties are such a significant problem for students who have autism, SLPs can play a critically important role in the collaborative effort to decide on appropriate goals and strategies for meeting the needs of individual students.

Parents—The families of students have knowledge and experience that is valuable in developing an effective program at school. This knowledge is of critical importance in answering the fundamental question: What skills are most important for my child to develop in order to enhance his or her life now and in the future? Parents have worked out ways of communicating and managing the student at home that can be helpful in the school setting. When families and schools work together to make the student's program compatible at home and school, the student benefits from the resulting consistency.

For more information on the parents' role in planning IEPs for their children, see *Parent's Guide to Individual Education Planning*, developed by the B.C. School Superintendents' Association and the B.C. Ministry of Education, 1996.

Teachers' assistants—In some cases, teachers' assistants are assigned to work in classes with students with autism. Across British Columbia, this educational employee group is described by a variety of titles, including teachers' assistants, paraprofessional workers, learner assistants, student assistants, or special education assistant. Teachers are expected to design programs for students with special needs; however, teachers' assistants play a key role in many programs for students with autism, performing a variety of functions from personal care to assisting with the instructional program. Working under the supervision of teachers or principals, teachers' assistants are often involved in shaping appropriate behaviours, developing independent living skills, facilitating interactions with others, or stimulating communication.

Provincial Outreach Program for Autism and Related Disorders—This provincial resource program provides school districts with assessment support and training for staff who work with students with autism. Outreach staff assess the communication, educational, and behavioural needs of individual students with autism and may assist the school staff in designing an IEP with positive behaviour support plans to meet the needs of each student. Outreach staff also provide professional training for educational staff who work with the students in their home classrooms.

B.C. Ministry for Children and Families and its agencies—The ministry, through its community agencies, may offer a variety of supports for families of children with autism. Among these services are behavioural consultation and respite services for families. To access these services, parents should contact the Ministry for Children and Families. To maximize the effectiveness of the educational component of the student's

program, interagency planning through an integrated case management approach is worthy of serious consideration.

Integrated case management

Integrated case management provides an opportunity for co-ordinated planning and service delivery to support children and their families. It encourages a collaborative team approach to the development and monitoring of the plan to support a student. One of the important advantages of such an approach is that even though individual team members may change over time, the process will be continuous and the child and family will always know some of the members of the team. Integrated case management can be developed in such a way that it demonstrates respect for the involvement of students and families in planning decisions.

Integrated case management planning and monitoring can be organized in such a way that it focusses on the main areas of a student's life. Areas of focus suggested by the B.C. Ministry for Children and Families in its document *Integrated Case Management: A User's Guide* are:

- Health—life-style, nutrition, or other health needs of the student
- Education—academic functioning based on assessment
- Identity—language, cultural, and spiritual aspects of the young person's life
- Family and social relationships—relationships with family members, including extended family, and friends
- Social/emotional/behavioural— behaviour needs, social skills
- Self-care skills—functional and independence skills
- Other (Vocational—especially for older students, job and career possibilities and transitions)

For more information on integrated planning, see the B.C. Ministry for Children and Families guide for service providers, *Integrated Case Management: A User's Guide*.

No single method for teaching students with autism is successful for all students. Also, students' needs change over time, making it necessary for teachers to try other approaches. This chapter contains information about important areas of instruction and instructional approaches that have proved successful for teachers working with students with autism, including suggestions from the literature on autism. The chapter is divided into five sections:

- Instructional approaches
- Strategies for classroom management
- Strategies for communication development
- Strategies for teaching social skills
- Teaching functional skills

Instructional approaches

Visual approaches

The most strongly recommended approach for teaching students with autism is to use visual aids. Students often demonstrate relative strengths in concrete thinking, rote memory, and understanding of visual-spatial relationships, and difficulties in abstract thinking, social cognition, communication, and attention. Pictographic and written cues can often help the student to learn, communicate, and develop self-control.

One of the advantages of using visual aids is that students can use them for as long as they need to process the information. In contrast, oral information is transient: once said, the message is no longer available. Oral information may pose problems for students who have difficulty processing language, and who require extra time. In addition, it may be difficult for the student with autism to attend to relevant information and to block out background stimulation. Using visual supports enables the individual to focus on the message.

Visual aids and symbols range in complexity from simple and concrete to abstract. The continuum moves from real object or situation, to

Quill, K. A. "Visually cued instructions for children with autism and pervasive developmental disorders," *Focus on Autistic Behaviour*, 10(3), 1995.

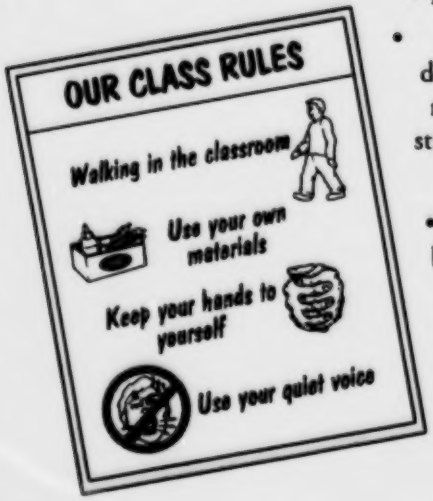
Hogdon, L. A., *Visual Strategies for Improving Communication, Volume 1: Practical Supports for School and Home*, 1995.

facsimile, colour photograph, colour picture, black and white picture, line drawing, and finally to graphic symbol and written language. Objects are the most simple, concrete form of aid. Graphic symbols, although far along the continuum in terms of complexity and abstraction, have been widely successful with students with autism. Software packages that provide quick access to graphic symbols and the ability to create customized symbols are available.

Visual supports can be used in a variety of ways in the classroom. However, to be successful, they must fit the student's level of comprehension by being at the appropriate point on the continuum of complexity. Using a line drawing to support learning when the student needs colour photographs in order to comprehend will only frustrate everyone.

Taking this caution into account, visual supports are very useful and can be employed to:

- organize the student's activity—daily schedules, mini-schedules, activity checklists, calendars, choice boards
- provide directions or instructions for the student—visual display of classroom assignments, file cards with directions for specific tasks and activities, pictographs and written instructions for learning new information
- assist the student in understanding the organization of the environment—labelling of objects, containers, signs, lists, charts, and messages
- support appropriate behaviour—posted rules and representations to signal steps of routines



- teach social skills—pictorial representations of social stories depicting a social situation with the social cues and appropriate responses, developed for a specific situation for the individual student (for further information on social stories, see the section in this chapter on strategies for teaching social skills)
- teach self-control—pictographs, which provide a cue for behaviour expectations

The key question to ask when planning an activity or giving an instruction is: how can this information be presented in a simple visual format? Choose visual aids on the basis of an understanding of the student and her or his abilities and responses.

Other approaches

Provide precise, positive praise while the student is learning

Give students precise information about what they do right or well; for example, "great colouring," or "good finishing of that math problem." Generalized praise may result in unintended learning that is hard to reverse. Students with autism may learn on one trial, so directing the praise to the very specific behaviour is important: "Sal, you are doing very well at multiplying these numbers." Superstitious learning can occur if students mistakenly connect something they are doing with the praise. Saying "Sal, you are doing very well" when Sal is also swinging his feet while he does the math assignment might connect the feet swinging with the general praise.

Use meaningful reinforcements

Reinforcers can be anything from praise to tangible objects that increase the behaviour the student is to learn. Students with autism may not be motivated by common reinforcers that work with other students. They might prefer some time spent alone, time to talk to a preferred staff member, a trip to the cafeteria, an exercise routine (such as going for a walk), time to play with a desired object, music, playing in water, getting to perform a favourite routine, items that provide specific sensory stimulation, or sitting at the window.

It is important to know what works as reinforcement for each child. A preference profile that identifies the activities or other reinforcers that are preferred by the student can be helpful. This "likes and dislikes" list can be developed with the help of the family and shared with all service providers. See the appendix for a Likes and Dislikes chart that can be used to record a student's preferences.

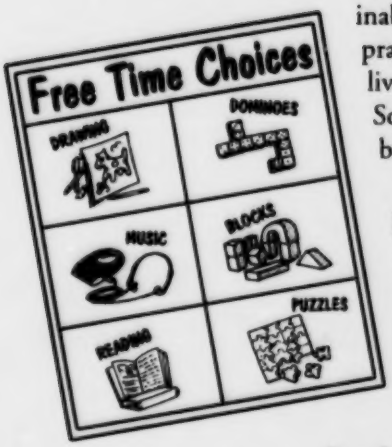
Plan tasks at an appropriate level of difficulty

Students with autism may be particularly vulnerable to anxiety and intolerant of feelings of frustration if they cannot perform the tasks assigned. Increasing the level of difficulty gradually and scaffolding or supporting learning (particularly with visual information rather than solely oral explanations) will assist in minimizing the student's frustration.

Use age-appropriate materials

It is important to honour the dignity of students with autism through the choice of instructional materials. Even if the instruction must be modified significantly, the learning materials should be appropriate to the age of the student.

Provide opportunities for choice



Because students with autism may be frequently frustrated by their inability to make themselves understood, they need instruction and practice in making good choices for themselves. Many parts of their lives may necessarily be highly structured and controlled by adults. Sometimes students continue to choose one activity or object because they do not know how to choose another.

Acceptable methods of providing choice for students who have limited ability to communicate need to be developed on an individual basis. Direct teaching of making choices may be helpful. Choice should be limited to one or two preferred activities until the student grasps the concept of choice. Open-ended choices will not enhance the student's skill at making choices, and may only frustrate him or her.

Break down oral instructions into small steps

When providing instruction for students with autism, teachers should avoid long strings of verbal information. As discussed above, supporting oral instruction with visual cues and representations will help students to understand.

Pay attention to processing and pacing issues

Students with autism may need longer to respond than other students. This may be linked to cognitive and/or motor difficulties. Students with autism may need to process each discrete piece of the message or request, and therefore need extra time to respond. Providing extra time generally, and allowing for ample time between giving instructions and student responses are both important tactics for supporting students with autism.

Use concrete examples and hand-on activities

Teach abstract ideas and conceptual thinking using specific examples, and vary the examples so that the concept is not accidentally learned as applying in only one way.

Use task analysis

Teachers and parents may need to break complex tasks down into sub-tasks and reinforce in small, teachable steps. For each step of a complex task, the student needs to have the requisite skills. These sub-skills may need to be taught and reinforced in sequence. For example, when teaching a self-help skill such as brushing teeth, the task may need to be broken down into sub-skills: getting the toothbrush and toothpaste, turning on the water, wetting the toothbrush, unscrewing the lid of the toothpaste, putting the toothpaste on the toothbrush, etc. Life skills, social skills, and academic skills can all be analysed and approached as tasks and sub-tasks, with each step taught and then linked to the next in a chain sub-tasks. See the appendix for an example of an instruction plan using task analysis.

Seip, J., *Teaching the Autistic and Developmentally Delayed: A Guide for Staff Training and Development*, 1996.

Use discrete trial methods

Using prompts to help students learn is an important element of instruction for some students with autism. Prompts may be physical, gestural, or verbal. They should only be used as long as they are needed, as students can become dependent on prompts. When using the discrete trial strategy, the instructor presents the stimulus for the desired behaviour (gives the directions or instructions), and prompts the student; the student responds, and then the instructor provides consequences based on behavioural principles. The prompt is often designed to model the desired behaviour or assist the student in performing it. Here is an example of a discrete trial format:

Behaviour objective: Identifying numbers, given an oral direction: Jackie will touch the card representing the correct number when presented with cards with the numbers 1, 2, 3, 4, and 5 on them.

STIMULUS	INSTRUCTOR PROMPT	STUDENT RESPONSE	CONSEQUENCE
Instructor says, "Touch 5."	Instructor taps the card with #5 on it.	Student touches the card with #5 on it.	Instructor smiles and says, "Good work, Jackie."
Instructor says, "Touch 5."	Instructor points at card with #5 on it.	Student touches card with #3 on it.	Instructor turns head and makes no verbal response.
Instructor says, "Touch 5."	Instructor taps the card with #5 on it.	Student flaps hands.	Instructor turns head and makes no verbal response.
Instructor says, "Touch 5."	Instructor points at card with #5 on it.	Student touches the card with #5 on it.	Instructor smiles and says "Good work, Jackie."

Introduce unfamiliar tasks in a familiar environment when possible

When it is not possible to introduce unfamiliar tasks in a familiar environment, prepare the individual for the new task and environment using aids such as pictures, videotapes, and/or social stories.

Organize teaching materials and situation to highlight what is important

Use organization aids and visual supports to:

- help the student attend to pertinent information, and
- teach new tasks

For example, remove extraneous materials from the desk or table before attempting to teach a skill. Or present only the text you want

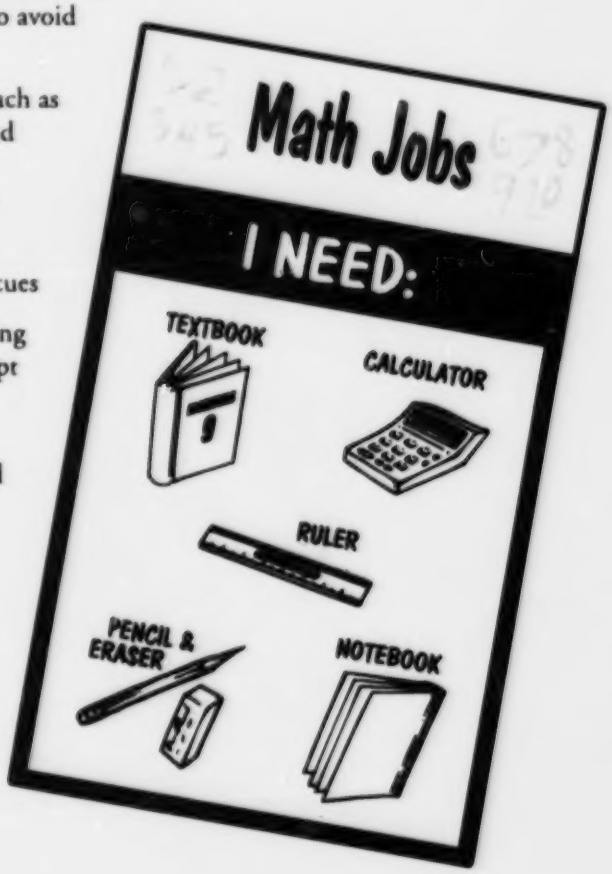
read rather than the whole book. Highlight the key words, such as character names in the text, so they are noticed.

Encourage independent effort and incorporate proactive measures to reduce the likelihood of becoming dependent on prompts

When students with autism are constantly supported, they may never develop the capacity to act independently. Since independence is a desired goal for all students, instruction should include strategies to decrease the need for adult prompting. Strategies include:

- using visual aids to decrease reliance on physical and verbal prompts from the parent, teacher, or teacher assistant
- planning ways to fade prompts
- ensure that the adult is not always positioned close to the student and that the same adults are not always present; positioning the adult away from the student and changing teacher assistants may help to avoid dependency
- providing visual organizational aids, such as schedules, task outlines, check lists, and charts, and involving the student in developing and using them, if feasible
- providing instruction to increase the student's awareness of environmental cues
- teaching in the environments containing the cues and reinforcement that prompt and maintain the behaviour

See the appendix for a chart explaining the hierarchy of prompts from high to low in level of intrusiveness.



Direct and broaden fixations into useful activities

If the student is fixated on an object or a topic, such as a colour or shape, use it to teach a concept. A whole week's learning activities in writing and math can be centred on one topic—this is creative theme-based learning activities taken to the extreme.

Know the individual, and maintain a list of strengths and interests

Family members can provide valuable information for teachers about what students know and do at home or in the community. These interests and skills can be built upon both for instruction and for reinforcing successful learning and behaviour.

Develop talent and interest areas

If the student demonstrates a particular interest and strength in a specific area (e.g., music, drama, art, graphics, computer), provide opportunities to develop further expertise in that area. This may not only provide enjoyment and success, but may also lead to the development of skills for future employment.

Strategies for classroom management

Provide a structured, predictable classroom environment

This is not to be confused with an authoritarian approach. The environment should be structured in order to provide consistency and clarity, so that students know where things belong and what is expected of them in a specific situation, and can anticipate what comes next.

Provide a customized visual daily schedule

The individualized schedule for a student with autism should fit comfortably into the overall classroom schedule. Vary tasks to prevent boredom, and alternate activities to reduce anxiety and possibly prevent some inappropriate behaviours. For example, alternate familiar, successful experiences with less preferred activities. It may be helpful to alternate large group activities with opportunities for calming down in a quiet environment. In addition, incorporating physical activity and exercise at points throughout the day is helpful. All planned activities can be charted in a visual form and posted at or near the desks of students with autism so that they can understand

changes in activities and know what to expect. The students can be helped to learn to use the schedule independently and staff can direct the student to the schedule when it is time to change activities to smooth transition times.

COMMON DIFFICULTIES WITH SENSORY SYSTEMS: OBSERVABLE BEHAVIOURS

HYPER-REACTIVE BEHAVIOUR INDICATORS	HYPO-REACTIVE BEHAVIOUR
AUDITORY SYSTEM	
• easily distracted by background sounds • over-reacts to sounds • unpredictable reactions to sounds • holds hands over ears to block noise • screams or cries at sounds in the environment • responds physically as if sound is a threat • does not respond to any kind of sound	• does not respond to name being spoken • seems oblivious to sounds of surrounding activities • creates constant sounds as if to stimulate self • unsafe because does not react to sounds indicating potential danger
VISUAL SYSTEM	
• disturbed by bright lighting • avoids sunlight • follows any movement in the room with eyes • blocks field of vision with eyes • covers part of visual field—puts hands over part of the page in a book • responds physically to appearance of certain objects or colours	• unaware of the presence of other people • unable to locate desired objects, people • loses sight of people or objects when they move • cannot distinguish figure-ground relationships
TACTILE SYSTEM	
• touch defensive—does not like to be touched • avoids tasks with strong tactile element (clay, water play, paint, food preparation) • complains about discomfort of clothing • refuses to wear certain items—tugs at clothes • responds negatively to textures in foods, toys, furniture	• does not seem to grasp concept of personal space • does not seem to notice touch of others • frequently puts things into mouth • does not adjust clothing, which would seem to be an irritant • high pain threshold, unaware of danger because of low response to pain
VESTIBULAR SYSTEM	
• over-reacts to movement activities • has difficulties navigating on different surfaces (carpets, grass, etc.) • walks close to wall, clings to supports such as banisters • seems to be fearful when movement is expected, muscles seem tense • rigid about positioning of body, keeps head in same rigid angle • seems to become physically disoriented easily	• seems to need constant movement • rocks, travels in circles • seems to tire easily when engaged in movement activities • generally slow to move, lethargic in movement • takes long time to respond to directions to move

COMMON DIFFICULTIES WITH SENSORY SYSTEMS: OBSERVABLE BEHAVIOURS	
HYPER-REACTIVE BEHAVIOUR INDICATORS	**HYPO-REACTIVE BEHAVIOUR**
GUSTATORY & OLFACTORY SYSTEMS	
• eats a limited variety of foods • gags, refuses foods • difficulties with oral hygiene • spits out foods, medications • over-reacts to smells in environment • smell-defensive—will avoid places or people with strong odours	• seems to be constantly wanting food • licks objects in the environment • chews on objects inappropriately • high threshold for bad tastes—dangerous substances are not avoided • sniffs objects and people in unusual ways • does not seem to notice smells others notice

An inventory of the possible sensory factors can be used to help minimize the negative effect that sensory information may be having on students with autism. Parents and others who have experience with the student will be a valuable source of information about sensory difficulties. Here are some questions to ask and other points to consider when developing an inventory:

- Auditory:
  - Are there fans, loudspeakers, fire alarms, several people talking at once, air conditioners, bells, dogs barking, or scraping?
  - What is the general sound level and the predictability and repetitiveness of sounds?
  - What can be done to minimize the negative effect these stimuli may have on the student with autism in the class?
  - Consider the individual's comprehension of verbal information and the time typically required to process auditory information and shift attention between auditory stimuli.
- Visual:
  - Are there distracters, such as light, movement, reflection, or background patterns, that affect the student's ability to attend to the learning activity?
  - Consider the eye level of the student, the position of the teacher in relation to the student, and distracters that may interfere with attention.
  - Also consider the time required to shift visual attention.

"Autism cuts me off from my own body, so I feel nothing. It can also make me so aware of what I feel that it is painful."

—Donna Williams, an adult with autism, in Somebody Somewhere, 1994

  - Careful attention to aversive visual stimuli and attempts to reduce the effect of these stimuli will assist managing the student's behaviour and help the student learn.
- Tactile:
  - Are there textures that seem to be aversive?
  - Are temperatures appropriate to minimize negative effect on the student?
  - Does the student demonstrate a need to explore through touch, and yet avoid being touched?
  - What is the level of ability or defensiveness in the use of certain objects intended to support instruction?
- Vestibular:
  - Consider the student's need to move and exercise.
  - What are the individual's reactions to movement?
  - How can the student's program incorporate needed movement without unduly jeopardizing the attention and learning of other students in the class?
- Gustatory and olfactory:
  - Consider the preferences in taste and smell of foods and other materials.
  - Decisions about activities should include consideration of the student's responses to the smell of materials.
  - Teaching the appropriate behaviour for snack or mealtimes will be affected by these preferences.

Note aspects of the tasks and activities that create frustration

Examine the instructional plan and non-instructional activities for problem areas that may result in sensory overload or frustration for the student. Make available sensory experiences that are calming for the student to accompany potentially frustrating tasks. Whenever possible, adapt tasks and materials to promote successful participation. When feasible, decrease environmental distracters and reduce activities that confuse, disorient, or upset the student and interfere with learning.

For more information on assessing sensorimotor systems of students with autism, see Dunn, W., "The Sensorimotor Systems: A Framework for Assessment and Intervention" in *Educating Children with Multiple Disabilities: A Transdisciplinary Approach* (1991) and Janzen, J., "Effects of the Autism Learning Style: Reception and Processing Problems" in *Understanding the Nature of Autism: A Practical Guide*, 1996.

Provide relaxation opportunities and areas

It may be necessary to have a calm, quiet, designated area where the student can go to relax. Relaxing for some students with autism may mean engaging in repetitive behaviours that have a calming affect on them. In some cases, students who crave certain repetitive movement, such as rocking or other self-stimulating movements, can be provided with a time and space where this movement is permitted.

Provide opportunities for meaningful contact with peers who have appropriate social behaviour

It will be necessary to teach appropriate social behaviour and to provide the student with situation-specific expectations for behaviour. More information on the development of social skills is provided in the "Strategies for developing social skills" section later in this chapter.

Opportunities for contact with peers may include:

- involving the student in shared learning arrangements
- pairing the student with buddies for walking down the hall, on the playground, and during other unstructured times
- varying peer buddies across time and activities, to prevent dependence on one child
- involving peers in providing individualized instruction
- arranging cross-age peer supports/buddies by assigning an older student to assist the student with autism
- pairing students while attending special school events such as assemblies and clubs
- facilitating involvement in after-school or extracurricular activities

If your school has an arrangement in which a class of older students is paired with a younger class, ensure that the older student with autism is also paired, and provide the necessary supports for success.

Plan for transitions and prepare the student for change

Students with autism often find changes in activity, setting, or planned routine very stressful. Visual schedules can be used to help them understand and co-operate with necessary changes. Social stories with illustrations can also be used to prepare the student for new situations.

For more information on classroom management, see Chapter 5, *Managing Challenging Behaviour.*

Strategies for communication development

Expanding the communication skills of students with autism is one of the greatest challenges for teachers and families. Most people are unaware of the complexity of normal communication, because children develop these skills automatically, usually by the age of three or four. Many students with autism have not developed the skills they need for spontaneous communication, and must therefore be taught. Helping students with autism develop communication skills—so that they can express their wants and needs, interact socially, share information, express emotions, and protest or escape aversive situations—is a priority.

Programs to facilitate the development of communication may begin in structured settings; however, promoting generalization and facility in using language requires that interventions take place in natural settings. Functional language skills are best taught in the social context where they will be used and where they have real meaning. The classroom and school environments provide a wealth of opportunities for developing functional communication within social contexts, and promoting generalization. However, opportunity alone will not address the communication needs of the student with autism. The specific skills requiring instruction and strategies for developing the targeted skills must be identified.

For more information on developing communication, see Wetherby, A. M., and Prizant, B.M., (Eds.), *Autism Spectrum Disorders: A Developmental Transactional Perspective* (in press, 2000).

The school team, parents, and specialized professionals should collaborate to identify communication goals and objectives for the student with autism. The planned interventions should be based on the abilities and needs of the student. The speech and language pathologist can assist in assessment of communication skills and provide suggestions and strategies tailored to the unique needs and characteristics of the student.

Here are some general suggestions for assisting with communication:

- Focus on developing interaction and communication in the environments in which the child participates (e.g., classroom, playground, gym).
- Use sentences to talk to the student. Keep in mind that you are modelling speech as well as trying to communicate with the student.
- Use vocabulary appropriate to the student's comprehension capability. For students with more severe communication disability, choose familiar, specific, and concrete words, and repeat as necessary.
- Use language that is clear, simple, and concise. Figures of speech and irony or sarcasm will only confuse students with communication difficulties.
- Allow time for the student to process the information. It may be necessary to talk more slowly or to pause between words. The pace of speech depends on the ability of the individual student.

"Autism...stops me from finding and using my own words when I want to. Or makes me use all the words and silly things I do not want to say."

—Donna Williams, in Somebody Somewhere, 1994

Learning to listen

Students with autism often need structured lessons on how to listen. Reinforcing listening efforts rather than assuming that listening is an expected and automatic behaviour may be necessary. Breaking listening down into components for the student and reinforcing each component may be helpful—for example, teaching the student to face the speaker, look at one spot (which does not mean they must make eye contact), and place hands in a planned position, and praising or otherwise rewarding each step.

Developing oral language comprehension

Use visual input to aid comprehension of oral speech. Visual aids may help obtain and maintain the student's attention. Accompanying spoken language with relevant objects, pictures, and other visual supports can help with comprehension. Experienced teachers of students with autism suggest the use of photographs to support understanding of the content of oral language communication. Interestingly, many students with autism use reading to support oral comprehension rather than the expected reverse of using oral language to support reading. This makes reading instruction even more significant for these students.

When working with students who are higher functioning, it is easy to assume that they understand information, particularly if they are able to repeat it. However, even though there may be good recall, the student may not grasp the intended meaning. It is important to check for comprehension.

Developing oral language expression

Students with autism may not develop traditional oral language, but most do develop some form of communication. It is important that people involved with the student have a thorough knowledge of the student's form of expression and that they adjust their expectations for communication accordingly. For students with limited oral expression, teachers and families should accept limited verbal attempts and non-verbal behaviour as communicative. A customized communication dictionary is a very useful tool in which staff and parents can document what the student says and what is meant, along with planned adult responses to language attempts. See the Appendix for a form that can be sued to create a communication dictionary.

Even those students with autism who do have oral language may not add to their working oral vocabularies easily. Teachers and parents will need to teach new vocabulary in a variety of contexts and using a visually-based approach. Students need to be taught that:

- everything in our world has a name
- there are different ways of saying the same thing
- words can be meaningful in a variety of contexts, and
- learning to use words will help them communicate their needs and desires.

Students who rely on pictorial representations to communicate will need to learn that a drawing or representation has a name and that it can give direction, or tell us what to do. Understanding this is essential if visual systems are going to provide meaningful communication.

The student's education program should include situations that encourage different types of expression, such as:

- requests (e.g., for food, toys, or help)
- negation (e.g., refusing food or a toy, protesting when asked to do something, or indicating when the student wants to stop)

- commenting (e.g., labelling pictures in books, or objects from a box, greetings or play activities)

Developing conversation skills

Hunt, P., et al., "Acquisition of conversation skills and the reduction of inappropriate social interaction behaviours" in *Journal of the Association of Persons with Severe Handicaps*, 13, 1988.

Virtually all people with autism have difficulty with the pragmatics of communication—the interpretation and use of language in social situations. Even those individuals who have a good vocabulary and appear to have a command of the language may have a restricted understanding of social and conversational interactions.

For some students it may be necessary to provide structured teaching to develop the oral language needed for social and communicative play. This can be done by providing structured play opportunities that incorporate the student's interests. Modelling, physical prompts, visual cues, and reinforcement can be used to facilitate attention, imitation, communication, and interaction. To facilitate social communication, structure interactions around the student's activity preferences and routine. Encourage informal and formal communicative social exchanges during the day.

Simple drawings are an effective strategy for teaching conversation skills. These drawings illustrate what people say and do and emphasize what they may be thinking. A set of symbolic drawings can be used to represent basic conversational concepts, such as listening, interrupting, loud and quiet words, talk and thoughts. Colours may be incorporated to represent the emotional context. Pictures with scripts can also be used to develop conversation skills and communication appropriate to specific social contexts and situations.

Gray, C., *Comic Strip Conversations*, 1994.

People with autism have difficulty understanding subtle social messages and rules, and also have problems interpreting the non-verbal communication of others. It may be helpful to provide the student with a concrete rule when one does exist, and to present it in a visual format, by writing it down or incorporating it into a social story or comic strip conversation.

Students also need opportunities for social interactions and community-based experiences in order to practise the skills.

Echolalia

Some children with autism demonstrate *echolalia*, the literal repetition of words or phrases from language of other people. Young children use echolalia as part of normal language development. However, in autism, some learners seem to stop developing at this level of language growth.

Echolalia can be both immediate or delayed; that is, the student can repeat what was just heard or can repeat it later, sometimes many months or years later.

Immediate echolalia can be used as a teaching tool. The echolalic speech phrase can be shaped by using speech rules and by using the echolalic skill to model more appropriate language. For example, when a student echoes back questions, the teacher can shape the response by modelling the appropriate response and reinforcing the use of the appropriate response when the student echoes it. This type of strategy is highly individualized, and it may be appropriate to consult with the speech and language pathologist for specific suggestions for the individual student.

Prizant, B., and Duncan, J., "The functions of immediate echolalia in autistic children," *Journal of Speech and Hearing Disorders*, 46, 1981.

Delayed echolalic utterances may have no obvious meaning for the listener. Students with autism frequently repeat television commercials word for word. To understand the function of the language behaviour, it is helpful to think of it as a chunk of language that has been stored without regard for meaning. A situation or emotion may trigger the use of the speech, even if it seems to have no connection to the situation. It is important not to assume that the student understands the content of the echolalic speech being used. When possible, try to determine the situation that has elicited the speech and prompt the appropriate language to use for that situation. For example, when a student echoed the script from a TV coke advertisement, this meant that the student was thirsty. The teacher tested this possibility by verbal prompting with a question such as "You feel thirsty and want a drink?" Sometimes families and teachers never figure out a logical connection for delayed echolalic utterances.

Indiana Resource Centre for Autism, *Autism Training Sourcebook*, 1997.

Using alternative or augmentative communication systems

Many children can benefit from the use of an augmentative communication system. An augmentative communication system is any approach that supports, enhances, or adds to the way a person tells you something. It may be used with non-verbal students and also for students who have verbal expression, but appear unable to use speech in a functional way to express wants and needs. Augmentative communication systems can range from low-tech (those not requiring any power source such as electricity) to high-tech (those systems that require power).

For additional information on PECS, see Frost, L. A., and Bondy, A. S., *The Picture Exchange Communication System: Training Manual*, 1994.

Janzen, J. E., *Understanding the Nature of Autism: A Practical Guide*, 1996.

Alternative communication may include:

- direct movement of person or object to communicate (e.g., pulling a teacher to the door when the student wants to go outside)
- using gestures or body actions to convey meaning (e.g., shaking the head to express negativity)
- using real objects to convey messages (e.g., bringing a jacket to ask to go home)
- using picture representations (e.g., the Picture Exchange System, or PECS)
- using the voice without conventional words (e.g., saying "Ah-ah-ah" to indicate need for the toilet)
- using written messages by pointing at already written ones, or by writing (e.g., using a word processor to communicate)
- using sign language gestures from a conventional, non-verbal, formal language (e.g., American Sign Language or Signed English)

Deciding whether to implement an alternative or augmentative communication system, and selecting the type of system, are both decisions that should be made carefully and based on an assessment of the learner's level of cognitive ability, skills, interests, and motor abilities. The spectrum of choices can be illustrated as a continuum:

highly abstract	signing
↓	written sentences
↓	written phrases
↓	written words
↓	drawings
↓	photographs
↓	gestures
↓	miniature objects
concrete	full-sized objects

Parents are key players in such decisions, as the communication system should be used both at school and at home to be effective. The school district speech and language pathologist (SLP) or another professional in the area of autism and augmentative communication systems

may be important sources of expertise to help with the decision. The teacher's role is often implementing the decision and supporting the student in learning to use it to supplement oral speech or as a substitute for speaking.

Ongoing research is showing promising results using computer technology as a means for communication and computer-assisted learning as a strategy for teaching communication skills.

Strategies for teaching social skills

Most students with autism would like to be part of the social world around them. They have a need to interact socially and be involved with others. However, one of the defining characteristics of autism is impairment in social interactions and social skills. Students with autism have not automatically learned the rules of interaction with others, and they are unable to follow these unwritten rules of social behaviour.

Many people with autism are operating on false perceptions that are rigid or overly literal. Recognizing these false perceptions can be very helpful in understanding the behaviour and needs of these students in social situations. The misperceptions include:

- rules apply in only a single situation
- everything someone says must be true
- when you do not know what to do, do nothing.

Janzen, J. E., *Understanding the Nature of Autism: A Practical Guide*, 1996.

Imagine how overly literal misconceptions could seriously limit social interaction. It is a mistake to assume that students with autism understand any situation or a social expectation. They may be using an ineffective method of interacting because they do not know another more appropriate one, or they may be unable to distinguish between situations in order to select an appropriate behaviour.

Social skill development is an essential curricular area for students with autism, as well as a crucial component of any intervention plan for changing problem behaviours. In order to help students, it is necessary to carefully assess their social competencies to determine which social skills must be directly taught.

To develop social skills, students need to have the opportunity to participate and interact in a variety of natural environments where

appropriate models, natural cues and stimuli, and functional reinforcers are available. Placement within integrated environments provides this access to peer models and social opportunities.

However, access to models and opportunities to develop social skills is not usually enough. In general, people with autism need explicit teaching to develop social skills and understanding of social situations. There are a variety of promising practices for supporting students with autism in developing social skills.

Using social stories

One of the most helpful methods for teaching social skills is the use of social stories, a strategy developed by Carol Gray. A social story is a description of a social situation that includes the social cues and appropriate responses, and that is written for a specific situation for the individual student. The story can be used for a variety of purposes, including:

- facilitating the inclusion of students in regular education classes
- introducing changes and new routines
- explaining reasons for the behaviour of others
- teaching situation-specific social skills
- assisting in teaching new academic skills.

Social stories can be created by parents, teachers, and other service providers. They are useful with students who have a level of cognitive functioning that allows them to understand the story. Non-readers can listen to social stories on cassette tapes. To be effective, a social story should describe a situation from the perspective of the student, direct the student to do the appropriate behaviour, and be in the voice of the student (i.e., from the "I" perspective).

The process begins with identifying student needs through observation and assessment. Once a difficult situation is identified, the author observes the situation and tries to understand the perspective of the student in terms of what will be seen, heard, and felt. The author then writes the story at an appropriate comprehension level and from the perspective of the student, and includes descriptive, directive, and perspective statements. (Descriptive sentences provide information on the setting, activity, and people involved; directive statements are positive statements about the desired response for a given situation; and

perspective statements provide a description of the possible reactions of others.)

The following formula provides a good rule of thumb for the content of a social story:

2 – 5 descriptive statements
+ 1 directive statement
= social story

The most effective format for a story is a booklet with one or two sentences on each page, and a single page containing one main concept.

Gray, C., *The Social Story Book*, 1993.

My Turn on the Computer

p.1 If I wait for my turn on the computer, the other kids like me better.

p.2 Everyone likes to have a turn on the computer.

p.3 When other kids are using the computer, I will be quiet and wait for my turn.

p.4 When I am finished on the computer, other kids can use it. That is okay, because I know I can use it the next day.

p.5 When I wait for my turn on the computer, everyone will be happy.

There are three basic approaches for implementing a social story:

- For a student who reads independently, the story is read twice by an adult, followed by the student reading it back. Then the student reads it daily.
- If the student does not read, the story may be recorded on a cassette tape with a signal (i.e., bell) to turn the pages. The student is taught to "read" the story, and reads it daily. Symbols, drawings, or photographs can be included in the story to support meaning for the student.
- To incorporate modelling, the story can be videotaped. The story is read aloud on a videotape, with one page on the screen at a time.

Teaching key social rules

Developing an understanding of the basic rules associated with a given situation will help the child to adapt to the social context, and may prevent increased anxiety and reduce the reliance on inappropriate coping behaviours. Critical social skills for which students with autism will likely need some type of direct instruction include:

- Waiting—Visual cues such as an object, pictures, and written words can provide concrete information to make waiting less abstract and more specific to the situation.
- Taking turns—This can be taught through the use of social stories as well as a picture or pictograph to cue the child. It may also be necessary to provide some instruction and rehearsal in turn-taking activities.
- Transitions—Using social stories and providing warnings with visual cues, such as symbols that are understood by the student, can help the student make the transition from one activity to another. Transitions can be particularly difficult if the student has not completed the activity; the student may need to be prepared for the possibility of having to finish later.
- Changing the topic in conversation—Some students may stay on one topic and appear unable or unwilling to talk about anything else. Staying with one behaviour or topic in this way is referred to as perseveration. Visual rules, established time limits, and setting a time and place to engage in a favourite topic may help in teaching students when they need to end or change the topic.
- Finishing—It may help to teach students to use environmental cues, such as observing and following the behaviour other children. It may also be necessary to use a timer, and a method for checking their own work.
- Initiating—Social stories combined with photographs or pictures can be particularly useful for teaching a student how to approach others, ask for something, get into a game, say hello, and leave a situation if upset.

- Being flexible—Visual systems can be used to explain changes in a concrete way. If sequenced schedules or picture routines are used, a specific picture or symbol can be removed or crossed out, and another put in its place.
- Being quiet—Visual supports may be helpful in teaching the specific behaviours for being quiet, and teaching rules for specific situations.

Indiana Resource Centre for Autism, *Autism Training Sourcebook*, 1997.

Using Cognitive Picture Rehearsal

Another instructional strategy for teaching social skills that presents information in a visual format is Cognitive Picture Rehearsal. This method involves presenting a sequence of behaviours in the form of pictures or pictographs with an accompanying script. The student is guided through repeated practice of the sequence of behaviours.

Groden, J., and LeVasseur, P., "Cognitive picture rehearsal: A system to teach self-control," in *Teaching Children with Autism: Strategies to Enhance Communication and Socialization*, 1995.

Using peer support

Peers can assist students with autism in developing social skills. It may be helpful to educate the peers first, so that they better understand the behaviour of the autistic student. For example, the teacher may need to interpret the non-verbal communication, or explain that a specific activity is difficult for the student, and identify what peers can do to help. This can be done informally or in a more structured manner. Young children can be shown how to use specific prompts to initiate and maintain interaction with a classmate with autism. They may also need help communicating with the student. Peers should be reinforced for their role, just as the student with autism is reinforced for social interactions.

Peers can be helped to develop strategies to enhance the social competence of the child with autism. Pivotal Response Training (PRT) is one technique that has been used during recess breaks and has been successful in increasing interactions, initiation, varied toy play, and language use. PRT involves teaching typical peers to use strategies to:

For additional information, see Quill, K.A., *Teaching Children with Autism: Strategies to Enhance Communication and Socialization*, 1995.

- gain attention
- give choices to maintain motivation
- vary toys
- model social behaviour
- reinforce attempts

Pierce, K., and Schreibman, L., "Using Peer Trainers to Promote Social Behaviour in Autism," *Focus on Autism and Other Developmental Disabilities,* 12(4), 1997.

- encourage conversation
- extend conversation
- take turns
- narrate play

Students can be provided with information on autism and tips for interacting with the student with autism. It is important that parents be involved in the decision to discuss autism with their child's peers. They may wish to preview any materials or may want to be involved in the presentation.

Using social skills training groups

Students with autism may also benefit from social skill instruction within a small-group structured format. There are a variety of social skills training programs and resources available.

For additional information on social skills training groups, see McGinnis, E. and Goldstein, A., the *Skillstreaming series,* 1997; Elliot, S., and Gresham, M., Social Skills Intervention Guide, 1991; and Walker, et al., *Walker Social Skills Curriculum: The Accepts Program,* 1988.

Promising programs include an assessment that is used to identify skills for instruction. Lessons follow a similar format in each of the social skills curricula:

- identifying the skill and skill components, and when it is used
- modelling the skill
- role play
- opportunities to practise, and
- strategies for generalization

Although these curricula are not developed specifically for children with autism, they can be used in combination with appropriate adaptations and supports. In addition, there may need to be a particular emphasis on the strategies for facilitating generalization of targeted skills.

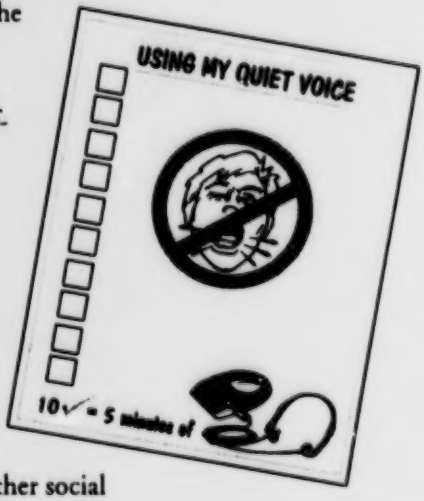
Integrated play groups

Integrated play groups can provide opportunities for younger students with autism to interact with their age peers, and create a natural environment for incidental teaching of social skills. Play groups provide natural situations in which children with autism use language to express wants, practise being near other children, and imitate social interactions between non-disabled peers.

Teaching self-monitoring/managing skills

The ultimate goal for all students, including those with autism, is to increase independent participation in a variety of environments with effective social skills. One way to increase independence in higher-functioning students with autism is to teach self-management procedures, in which students monitor their own behaviour in order to earn positive reinforcement. Studies have shown that in the process of the student collecting his or her own self-monitoring data, the desired behaviour increases. The accuracy of the self-monitoring may not be as important as the process and awareness it builds in the student. The process for teaching self-management is as follows:

1. Define the target behaviour that the student will self-monitor.
2. Identify reinforcers that function successfully for the individual.
3. Create a self-monitoring method for the student to collect data (e.g., a chart, stickers, or some kind of low-tech counter device).
4. Teach the student the target behaviour and how to use the self-monitoring method to record the performance of the behaviour.
5. Increase the student's independence by gradually reducing adult intervention and having the student self-manage behaviour.



Supporting the development of friendships

Optimally, the aim of developing specific social skills is to enable the student to interact with others in a variety of settings, and to facilitate the development of social opportunities and relationships. Students who demonstrate basic social skills may still have difficulty establishing connections with other children and maintaining interactions with peers. Teachers and parents may facilitate further social interaction through:

- encouraging a friend to play with the child at home
- helping the student join school clubs with support as needed to participate
- teaching the child to observe other children to follow what to do
- encouraging co-operative games

- modelling how to relate to the child, and educating other students in the class
- encouraging prospective friendships
- providing enjoyment at break times
- doing projects and activities that illustrate the qualities of a good friend
- helping the student to understand emotions through direct teaching of how to read people's faces and body language and respond to cues that indicate different emotions

See Chapter 5, *Managing Challenging Behaviour,* for further suggestions on developing appropriate social behaviour.

Teaching functional skills

One of the fundamental goals of schooling is that students acquire the skills they need to function as independently as possible in the world. This may be even more important for students with such disabilities as autism, because they have significant difficulties in acquiring independent functioning skills.

For students who have needs in the area of functional skills development, goals for these skills should be identified in the student's education program and included in the IEP. The same instructional approaches and strategies used for other areas can be applied to instruction in functional skills.

In the field of special education, educators have developed a variety of models for the domains of functional skills. Although these models differ in some ways, they basically include five domains:

- domestic, or self-care
- functional academics
- vocational, or job skills
- social, including leisure skills
- community, including travel and using services

Schools and families should co-ordinate the planning of instruction for functional skills, so that instruction at both home and school is consistent and efficient. Some of these skills involve the most personal

areas of a person's life, so sensitivity and care need to be used in planning with parents or other caregivers.

Self-care

The same kinds of instructional strategies can be applied to instruction in the areas of self-care as with communication or social skills. Students with autism, particularly those who also have intellectual disabilities, often need direct instruction in personal hygiene, grooming, and dressing. Toileting can be an area requiring significant planning and instruction. Planning meals, food preparation, and even eating may be an appropriate part of a student's program. Household skills required for living independently (e.g., doing laundry, caring for clothing, and cleaning) may be taught or reinforced in the school program. Handling money and budgeting are essential skills for older students.

Functional academics

Being able to apply the basic academic skills of reading, writing, and mathematics to real life situations is another important area of functional skill development for many students with autism. Students need to learn how to communicate personal information such as their name, birth date, address, and telephone number. They need to recognize important signs and instructions in writing, such as labels and street signs. Using measurement for weight, volume, distance, and size; counting; using calendars; and telling time are all mathematical literacy skills that are of critical importance to independent functioning.

Vocational skills

Students with autism usually require instruction in basic skills needed for the world of work. These skills are broad and overlap with all the other areas. Independent adults need to have skills such as:

- being punctual and reliable in attendance at the work site
- following a job routine, and completing duties as assigned
- understanding task completion
- following safety procedures
- accepting direction and correction
- responding appropriately to persons in authority

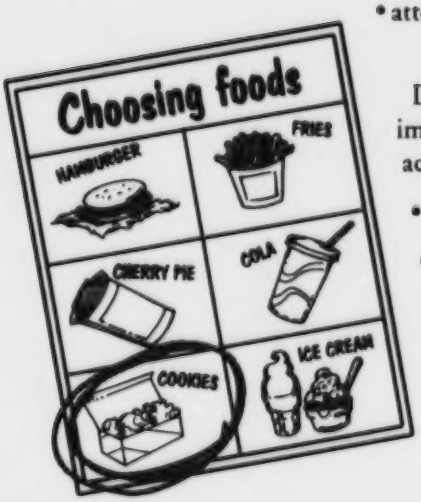
- completing a cleanup routine
- dressing in appropriate work attire and using appropriate grooming
- using job site leisure time appropriately (lunch, breaks)

Leisure skills

Education programs for students with autism often include a recreational component, in recognition of the fact that they need help in developing a positive use of their spare time. For some individuals whose disabilities preclude employment in the future, leisure activities make up an even more significant part of their daily routines as adults. Participation in leisure activities can vary from full participation to partial participation, depending on the needs of the individual. Finding ways to plan for meaningful partial participation is a challenge facing families and schools.

Leisure activities include:

- team sports (e.g., soccer)
- individual sports (e.g., bowling)
- arts activities (e.g., music)
- attending performances (e.g., theatre, movies)
- nature activities (e.g., camping, hiking)
- participating in organized groups (e.g., Scouts)
- attending social events (e.g., dances)



Developing activities that can be enjoyed at home is also important. Students may need support in finding and learning activities such as:

- using a television, stereo, and VCR
- caring for pets
- playing games such as cards
- sewing, knitting, or doing other crafts

Community skills

Safety is a major concern for many students with autism. It is important to consider safety issues in planning for them as they develop independence in the community. Social skills are of course closely connected to community skills. Possible areas for consideration in planning community skills instruction include:

- using public transportation
- finding community services such as pools, recreation centres, and banks
- managing pedestrian rules and understanding traffic
- using public facilities such as washrooms
- restaurant skills such as choosing and ordering food

For more information on planning instruction for community skills, see Gray, C., *What's Next: Preparing the Student with Autism or Other Developmental Disabilities for Success in the Community*, 1992.

SUMMARY OF SUGGESTIONS FOR TEACHING STUDENTS WITH AUTISM

INSTRUCTIONAL APPROACHES	
Use visual methods of teaching	• post daily schedules • create individualized mini-schedules • provide activity checklists • create choice boards • label objects and containers • post classroom rules, with illustrations or symbols • create visual representations of steps in personal or class routines • provide visual cues to support oral information or teacher directions
Additional teaching approaches	• break tasks into component parts and teach each component • carefully word praise so that it is behaviour-specific • provide reinforcers that produce desired student response • use discrete trial strategies • use behaviour-shaping strategies • plan tasks at appropriate level of difficulty • use age-appropriate materials • provide opportunities for choice • use simple oral instructions supported by visual information • pace tasks at student's level • allow adequate time for processing information • wait with patience for student response • employ student interests to motivate and teach new skills • highlight important information

STRATEGIES FOR CLASSROOM MANAGEMENT

- provide a structured, predictable classroom environment
- customize a schedule and locate it at student's desk
- adapt the classroom environment to eliminate, as much as possible, stimuli that elicit problem behaviour
- devise strategies to minimize the effect of stimuli that cannot be eliminated
- adapt tasks and materials to avoid student frustration
- provide a relaxation area
- provide opportunities for student to be in contact with peers who model class routines
- plan carefully for transitions between activities and locations

STRATEGIES FOR COMMUNICATION DEVELOPMENT

Learning to listen	• provide structured lessons in listening • break down listening into behaviour components and reinforce each component
Developing oral comprehension	• use visual aids (photographs, pictures, objects, etc.) • use gestures with oral communication • pair written language with oral communication
Developing oral expression	• reinforce attempts to communicate • provide structured instruction of new vocabulary supported with visual aids • help student understand that everything in the environment has a name • use desired objects or activities to encourage expression • provide classroom situations in which comments are elicited
Developing conversation skills	• model appropriate skills, and have other students model desired skill • provide opportunities for structured play interactions • use discussions of routines to practise skills • teach students the correspondence between behaviours and thoughts • encourage and reinforce informal conversation • use prepared scripts to teach social conversations • teach rules for social discourse

STRATEGIES FOR SOCIAL SKILLS DEVELOPMENT

- use social stories
- teach components of key social skills
- provide planned practice and reinforcement for skills
- provide practice of skills using picture cue-cognitive picture rehearsal
- use peer support
- use social skills training groups
- support the development of friendships

Managing Challenging Behaviour

Chapter Five

Students with autism may demonstrate some unusual and challenging behaviours, and they do not always respond to the usual methods of discipline. To implement effective instructional activities, it may be necessary to first focus on managing the student's behaviour. Behaviour problems are often the primary concern of teachers and parents, because they disrupt the learning of both the student and other students in the class, and harmony in the family. It may be necessary to develop a systematic plan for changing behaviour.

It is important that any behaviour intervention plan be based on an understanding of the characteristics of autism, as well as knowledge of the strengths and needs of the individual student. Understanding that all behaviour has a communicative function is essential in developing a successful intervention plan.

A behaviour intervention plan can be developed through a collaborative problem-solving process involving the significant people in the student's life, including parents, classroom teachers, special educators, and teacher assistants. It may also include other involved persons, such as principals, behaviour consultants, speech and language pathologists, and psychologists. A good starting point is to understand the situation as a problem to be solved and to analyse the deficits in learning that may be causing the problem behaviour. When teachers and other educational workers are provided with appropriate information and training, they are better equipped to deal with challenging behaviour. The major steps of the problem-solving process are usually:

1. identifying the problem behaviour
2. identifying the function of the behaviour and contributing factors
3. identifying an alternative behaviour
4. developing strategies for changing behaviour
   - environmental adaptations
   - positive program strategies
   - reactive strategies
5. developing the behaviour intervention plan
6. evaluating the behaviour intervention plan

Determining the function of behaviour

The purpose of a behaviour may be:

- to gain attention

- to escape/avoid

- to get something

- regulation

- play

—from Durand V. M., and Crimmins, D. B., *The Motivation Assessment Scale*, 1988.

Dalrymple, N. and Porco, B., "Steps in designing a behaviour plan," in *Autism Training Sourcebook*, 1997.

1. Identify the problem behaviour

Identify and describe the behaviour in observable terms, including where and when it occurs, what usually happens before the behaviour, and the typical reactions of other people.

It is important to determine whether the behaviour actually does pose a problem. Key considerations include:

- Is the behaviour potentially harmful to the student or others?
- Does it interfere with the student's learning or the learning of others?
- Does it result in negative reactions and/or avoidance by peers and adults?

The student may display more than one challenging behaviour. It may not be reasonable to expect to change all behaviours, and priorities for intervention will need to be established.

2. Identify the function of the behaviour and contributing factors

The function or purpose of a behaviour is not always obvious. It is often necessary to collect information about the student, behaviour, environment, and consequences to determine what purpose the behaviour serves and what factors are maintaining the behaviour.

To determine the underlying contributing factors, conduct a thorough assessment of the behaviour and the context in which it occurs. Ask:

- When and where does the behaviour occur?
- What is going on in the setting when the behaviour occurs?
- Who else is involved or near the student?

The assessment process should also include gathering significant information about the student, such as:

- likes and dislikes
- fears and frustrations
- communication skills
- strengths and needs
- how the student interacts socially

- the typical responses to sensory stimuli

Frequent communication with the student's family or caregivers will provide valuable information. School staff and families often develop a communication system such as a daily communication log or book that travels to and from school with the student. For an example of a home-school communication log, see the Appendix.

A careful analysis of the student's responses to stimuli may reveal unexpected connections to seemingly small things in the environment. It is essential to keep track of such information and ensure that it is passed along to other people who work with the student, especially during important transitions to new classes or programs, or when staff who work with students change.

Problem behaviours may be a result of other characteristics associated with autism, such as attending difficulties, problems with interpreting verbal information, limited verbal expression, impairment in social skills, and different responses to sensory stimulation. For example, what appears to be a lack of co-operation may be the result of not understanding expectations or not knowing what is going to happen.

For a comprehensive form for recording transition information, see Janzen, J., *Understanding the Nature of Autism: A Practical Guide*, 1996.

Functional assessment of behaviour is the process of identifying the function or functions that a specific behaviour serves for the individual, and is based on the premise that all behaviour serves some purpose. Because students with autism have difficulties with language, it is important to look at all behaviour from the perspective of its communication function. The purpose may be to:

- gain attention, or communicate a need or want
- gain a tangible consequence

escape from an unpleasant situation

- gain a sensory consequence
- self-regulate
- make a comment or declaration
- release tension

The behaviour may also be habitual.

Information for a functional assessment can be found through:

- a review of the student's records
- interviews with people who are most knowledgeable about the student in the situation, such as a teacher assistant or family members

For more information on functional assessment and forms to use in planning interventions, see O'Neill, R., et al., *Functional Assessment and Program Development for Problem Behaviour*, 1997.

- observation and recording of behavioural data

Observing the student can help provide insight into behaviour, both in settings in which the problem occurs and in settings in which the problem does not usually occur. The process of collecting the information for a functional assessment involves:

- identifying antecedents (what happened just before the behaviour, where the behaviour occurred, and with whom the behaviour occurred)
- describing the behaviour
- consequences (what happened after, and as a result of, the behaviour)

When describing the student's behaviour:

- include the frequency, intensity, and duration of the behaviour; for example, when describing a tantrum, include how many times a day a student has tantrums and how long the tantrums last
- be specific; for example, screaming can vary in intensity and duration, and may or may not be a behaviour to target if the intensity is mild
- clearly identify the situation where the behaviour does and does not occur; for example, a behaviour may only occur in the school cafeteria or on the bus

For a questionnaire that will assist in determining the possible functions of behaviours, see Durand V. M., and Crimmins, D. B., *The Motivation Assessment Scale*, 1988.

Analyse the information to identify patterns, possible reinforcers, and anything that may be triggering the behaviour. It is particularly useful to make sure that the assessment includes an analysis of the relationship between the problem behaviour and the environmental conditions in which the behaviour occurs.

Many useful formats and forms have been developed for use when conducting a functional assessment. See the Appendix for an example of a behaviour observation and data collection chart for determining the functions of behaviour.

3. Identify an alternative behaviour

The functional assessment of behaviour provides a foundation for developing a behaviour plan. The success of the behaviour plan depends more on instructional and proactive strategies than on reactive strategies.

Once the purpose of a behaviour has been determined or hypothesized, it is possible to identify an alternative, more appropriate behaviour that can serve the same function. For example, if a student pushes materials on the floor to avoid a task that is too difficult, the student may need to be taught another more acceptable way to get away from doing an activity that is connected with feelings of failure, or better yet, be taught how to ask for assistance in an appropriate way. These alternative behaviours may not be in the student's repertoire.

The focus of the behaviour intervention is instruction rather than discipline. The goal is to increase the student's use of an alternative, more appropriate means of achieving the same purpose. The alternative behaviour is usually a more effective way to communicate or interact with other people. It might also be a more appropriate means of seeking sensory stimulation, or an appropriate method for reducing anxiety (e.g., relaxation exercises, visual imagery, going to a quiet place). For example, a student who bangs on the desk as a way of dealing with anxiety caused by uncomfortable proximity to other students can be taught to go to a prearranged quiet spot in the class as an alternative behaviour. The alternative behaviour may also involve anger management and self-control.

It cannot be assumed that the student has the skills necessary to engage in the alternative behaviour. Systematic instruction and reinforcement are usually necessary. In most situations, teaching of the alternate behaviour will need to be combined with other positive program strategies.

4. Develop strategies for changing behaviour

Environmental adaptations

Problem behaviours can often be reduced or eliminated by making changes in the environment. The assessment and analysis of the behaviour may indicate that it occurs within specific areas, or during specific times, such as transitions. Sometimes the likelihood of the behaviour occurring can be minimized by making environmental accommodations. This does not mean that the entire classroom has to be changed for one student; but adjustments can be made depending on the student's individual needs.

Possible environmental adaptations include:

- removing distracting stimuli

- decreasing sensory stimuli if feasible—be aware of any hypersensitivities to sensory stimuli the student might have, and examine the environment for causes of sensory overload
- incorporating into the student's daily routine sensory experiences that are calming for him or her
- making changes in physical arrangements, such as seating
- providing a clear and predictable schedule
- scheduling calming-down times or exercise breaks before difficult situations
- alternating more difficult and demanding tasks with those that are easier and more enjoyable
- providing choices
- providing access to favourite activities and peers
- having a place where the student can go to relax

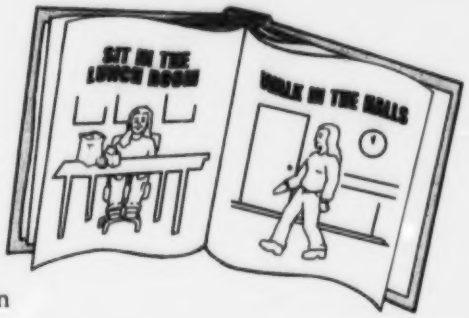
Positive program strategies

Providing a program that emphasizes the development of communication and positive behaviours in a predictable and rewarding environment can help to reduce the frequency and severity of problem behaviours.

Components of a positive program are covered in Chapter 4, *Teaching Students with Autism*. In brief, they include:

- teaching communication skills using an appropriate form of communication, depending on the abilities of the student
- teaching social skills that are not readily "picked up" from watching others
- identifying functions of maladaptive behaviours and teaching more appropriate replacement skills or behaviours
- providing visual supports to clarify instructions and teach new concepts and skills
- using social stories to teach behaviour for situations that pose a problem

- providing clear expectations for behaviour, using appropriate visual aids to help the student to understand what is expected
- providing a clear schedule and using it to prepare the student for transitions between activities and to prepare for any changes that may occur
- teaching the student to make choices and providing opportunities for choice within the schedule
- providing instruction at a level appropriate to the student
- monitoring the student's response to the environment and adapting it to reduce the likelihood of anxiety responses before they happen



- reinforcing appropriate behaviour with reinforcements that are meaningful to the individual student
- teaching relaxation techniques
- fading prompts to increase independent functioning

Being proactive is more effective than reacting to student misbehaviour. It helps to observe students with autism for signs of increasing anxiety and identify the environmental factors that may be associated with increased anxiety. For example, if social play increases stress, it might be helpful to provide the opportunity for isolated play. This does not mean that the program should forego the goal of increasing interactive play with peers. However, the amount of time spent with others may need to be restricted if the student is very anxious. Over time, contact with other students can be increased in the context of a program that teaches social skills and provides support in interactive situations.

The behaviour of a student with autism will be more manageable if the student is provided with opportunities for relaxation throughout the day. These may consist of brief, 5–10-minute periods of relaxing activity such as:

- going to a special calm place in the school
- listening to music with headphones
- playing with a favourite object
- sitting quietly and looking out the window

- engaging in a repetitive behaviour

It is important to note that what is calming for one child may increase anxiety for another. Students can be taught to communicate that they need a break before inappropriate behaviour escalates. Relaxation training can be provided by teaching the student specific routines and behaviours to relax.

Looking ahead to plan for change is also important in managing behaviour. Students may need opportunities for rehearsal and desensitization to new places, people, or things. Change is difficult for them, but adapting to and coping with change is a necessary life skill. Introduce new situations slowly so that students have an opportunity to become familiar with different settings, people, and expectations.

Dealing with repetitive behaviours

Repetitive behaviours are often a concern to parents and teachers. However, as one parent of a student with autism has said, "Pick your battles": it may not be an appropriate use of instructional time and effort to try eliminate a particular repetitive behaviour in light of the many other things that the student needs to learn. These behaviours cannot be totally eliminated, but they may be reduced and, in some situations, replaced with more suitable alternatives. Repetitive behaviours such as rocking and spinning may serve an important function for the student. For example, if the student uses the repetitive behaviour to calm down, it may be appropriate to teach other methods of relaxation that provide the same sensory feedback. For some students, it may be appropriate to find another source of stimulation that may satisfy the sensory need.

Here are some general suggestions to consider for reducing or replacing repetitive behaviours:

- Teach an alternative behaviour that is related, but more socially acceptable.
- Provide a variety of sensory experiences during the day.
- When the behaviour is happening, try to divert the person's attention to another activity.
- Negotiate when and where the repetitive actions are acceptable. Controlled access may reduce the desperation to engage in the activity, and should be scheduled rather than being contingent upon good behaviour.

- Gradually reduce the amount of time allotted for the behaviour. Increase the amount of time between scheduled times for repetitive behaviours.
- Use the level of repetitive behaviour to assess the student's level of stress.
- Allow the student to engage in the behaviours in an emergency situation to calm down.

Helping the student develop self-control

Instruction may need to focus on the development of anger-management and self-control strategies. Using social stories to teach self-control in specific situations has proved very useful for some students with autism.

Another visually based approach to teaching self-control is Cognitive Picture Rehearsal. This strategy uses visual supports in an individualized program for the student with autism. Pictures and scripts for a sequence of behaviours are presented, and the student is given opportunities for repeated practice of the behaviour, with immediate reinforcement. The general process in developing such a picture strategy is as follows:

Groden, J., and LeVasseur, P., "Cognitive picture rehearsal: A system to teach self-control," in *Teaching Children with Autism: Strategies to Enhance Communication and Socialization*, 1995.

1. Identify the behaviour that needs to be reduced (e.g., screaming in response to loud noises).
2. Identify the antecedents to the undesirable behaviour (e.g., loud play in the gym) and provide the student with an appropriate alternative way to cope with the antecedent condition (e.g., putting on headphones to dull the sound stimuli).
3. Identify reinforcers that follow the appropriate behaviour (e.g., a special treat at the end of the gym class).
4. Provide the student with pictorial or photographic representations of this chain of events and give instruction using these pictures so that she or he is familiar with the sequence of the antecedent, the behaviour, and the reinforcer.
5. Rehearse this sequence before going into the stressful situation (e.g., provide practice going to the gym, experiencing a loud noise, putting on headphones, and returning to class for a special treat), and support with pictures.
6. Use the sequence in the situation where there was a problem with self-control and keep the pictures close by so they can be referred to if needed.

Strategies for promoting independence and self-management are outlined in the "Strategies for social skills training" section in Chapter 4, Teaching Students With Autism.

Reactive or consequence-based interventions

Positive programming strategies that focus on increasing student competence and making the necessary accommodations to physical setting, materials, and instruction will be the most successful in facilitating long-term behavioural change. However, it is sometimes necessary to also design a planned reaction to a behaviour to maintain order and safety in the classroom.

It is essential that everyone involved with the student be prepared to react to specific behaviours in a consistent way and with the same consequences. Likewise, staff responsible for carrying out the plan need to have the skills and knowledge about behavioural principles to set up and carry out the planned consequences. In general, there are three major types of reactive techniques:

Positive programming strategies are the most successful in facilitating long-term behavioural change.

- ignoring the behaviour
- redirection
- removal from reinforcements or time out

Ignoring the behaviour may be appropriate for minor behaviours. Gaining attention may be the motivation for the behaviour, so that reacting to it may actually be making it harder to stop rather than decreasing it. The student may need to be directly taught how to gain attention or wait for turns, or any other social interaction skill. Ignoring may be difficult to implement in a classroom setting, particularly if the behaviour is disruptive to the learning of the student or the other students in the classroom. It is important to make sure that the student is not being inadvertently reinforced by other sources, such as peer attention.

Redirection is a vital component of any behaviour intervention plan. If a behaviour is unacceptable, the student needs to know what is expected instead, and the expectations need to be communicated clearly. The use of a visual aid, such as a pictograph, is often helpful. Redirection is used in combination with positive programming strategies. The student will need to be taught the more appropriate alternative behaviour, and provided with opportunities to practise and rehearse it.

Removal from the reinforcements for the undesired behaviour may involve removal from the situation, sometimes referred to as a time-out. If a student is very anxious or upset, it may be necessary for the student to leave the situation to calm down before any redirection or teaching of alternative behaviours can occur. This approach can be combined with positive programming strategies, such as teaching students to recognize when they are becoming anxious, and teaching them to independently remove themselves from the situation before they lose control of their behaviour. Because removal from the learning environment as a consequence is a serious form of intervention, it should be cautiously used and carefully documented.

Token economy

A system of reinforcement for desired behaviour can be set up, in which receiving a token is contingent upon the student performing the desired response. Tokens, which can be poker chips, tickets, or points recorded on a form or graph, are earned by the student for completion of tasks or other appropriate behaviour. Earned tokens are then "cashed in" for designated reinforcers known to increase behaviours for that student, such as tangibles (food or other desired objects) or preferred activities (time on the computer, use of a Walkman, or access to a favourite person).

Tokens can provide an immediate pay-off for the student, which is a stronger reinforcer than waiting until the end of a class or day. A token system is more effective than social reinforcers for some students with autism who do not respond to social reinforcers such as praise. When using a token system, teachers should still pair the awarding of token with praise so that the tokens can eventually be phased out and replaced by more natural reinforcers in the student's life. It is not advisable to use a token system as punishment, with tokens removed.

Shaping behaviour

Teaching the new acceptable behaviour may involve shaping the behaviour so that approximations of the desired behaviour are reinforced. Once the student is reinforced for an approximation of the desired behaviour, reinforcement is only provided for closer approximations. For example, if the goal is for a student to stay on task for 15 minutes, the following shaping procedure might be used:

Desired Behaviour = 15 minutes on mathematics tasks

Student is reinforced for 2 minutes of on-task behaviour.

Student is reinforced for 4 minutes of on-task behaviour.
Student is reinforced for 6 minutes of on-task behaviour.
Student is reinforced for 10 minutes of on-task behaviour.
Student is reinforced for 12 minutes of on-task behaviour.
Student is reinforced for 15 minutes of on-task behaviour.

Crisis management interventions

The best way to deal with a crisis is always to plan so well that there never is a crisis. However, some students with autism can become very agitated. In such cases, it may be necessary to have a crisis management intervention planned and well understood by all staff working with the student and perhaps the other students in the class. This crisis plan will ideally be developed by the whole planning team, including the family of the student. The plan may include:

- a description of the signals that indicate that a crisis situation is developing (as identified in the functional assessment)
- a strategy for preventing injury for the student, peers, and staff in all settings in which the crisis may occur
- a list of steps in the intervention to match each step of the escalating behaviour problem
- things to do and things not to do
- provision of appropriate training for staff who will carry out the plan, with opportunities to practise the interventions needed for the plan
- record keeping, for monitoring use of the crisis plan and evaluating its effectiveness

Time-outs may be part of a crisis management plan. Because of the seriousness of this approach, schools would be wise to consult with a physician or mental health professional before implementing time-out, and make careful records with frequent review part of the plan.

It may be appropriate to allow the student to engage in a repetitive, stereotypical behaviour in a very stressful situation, as this behaviour may be a coping mechanism. Although the goal may be to teach more appropriate means of dealing with stress, the repetitive behaviour is preferable to aggression.

5. Develop the behaviour intervention plan

Once the team has identified a student's problem behaviours and the contributing factors, desired alternative behaviours, and strategies for instruction and management, specific interventions can be planned. These plans should be recorded and included in or attached to the student's IEP.

Written plans should outline the goals for behaviour change, the environmental adaptations, positive program strategies, and all reactive strategies, so that all people involved with the student can maintain a consistent approach. This is particularly important in maintaining consistency between home and school, in environments throughout the school, and for situations in which on-call staff are working with the student.

In addition, review dates for behaviour goals need to be established, and a process should be in place to evaluate the effectiveness of the plan.

6. Evaluating the behaviour intervention plan

When evaluating the effectiveness of the interventions identified in the student's IEP, ask:

- Is the intervention being implemented consistently?
- Does it need to continue for a longer period of time?
- Do minor adjustments need to be made?
- Is the target behaviour being maintained through other factors that were not accounted for?
- Do the reinforcements need to be modified?
- Are alternative strategies needed?

SUMMARY OF SUGGESTIONS FOR MANAGING CHALLENGING BEHAVIOUR

CARRYING OUT A FUNCTIONAL ASSESSMENT

- identify the problem behaviour
- gather information to determine the function of the behaviour for the student
- carefully describe the behaviour
- identify antecedents to the occurrence of the behaviour
- identify consequences—what happens in the environment after the behaviour
- measure the frequency and intensity of the behaviour
- identify an alternative acceptable behaviour that could fulfill the same function
- plan and carry out instruction to teach the alternative behaviour
- reinforce successful use of the alternative behaviour

STRATEGIES FOR CHANGING BEHAVIOUR

Environmental adaptations	• remove distracting or anxiety-producing stimuli • alter features of the environment that cause sensory overload for the student • arrange classroom to maximize structure and minimize opportunities for undesirable behaviours • provide a place for the student to retreat to for relaxation and calming down
Positive programming interventions	• use proactive, instructional approaches whenever feasible • directly teach behaviours needed to meet expectations • use reinforcers to increase appropriate behaviours • provide opportunities for retreat and relaxation throughout the day
Reactive or consequence-based interventions	• ignore behavicurs that do not harm the classroom atmosphere • redirect the student by communicating the desired behaviour • remove whatever is reinforcing the behaviour • remove the student from a reinforcing situation • provide reinforcement through token economy • shape behaviour by reinforcing succeeding approximations • plan for crisis management, if appropriate

Students with Asperger's Syndrome

Chapter Six

Asperger's syndrome (AS) has some of the same characteristics as autism. Although AS shares some characteristics with higher-functioning autism, it also has some unique features, and a different developmental progression and prognosis.

In British Columbia, the designation for supplemental funding of students with a medical diagnosis of AS should be based on the nature and extent of the disabling condition and the educational interventions required. These students may be reported to the ministry in High Incidence categories such as "Moderate Behaviour Disorders" or "Severe Learning Disabilities," or, in a very few cases, in the "Severe Behaviour" category or a Low Incidence category.

According to *DSM-IV* criteria, the child diagnosed with AS must meet the criteria for social impairment, repetitive activities, and age of onset, but have normal cognition and early language development. AS involves fewer symptoms than autism and is considered to be a mild to moderate disability, while autism is usually considered to be a severe disability.

Myles, B. S., and Simpson, R. L., *Asperger Syndrome: A Guide for Educators and Parents*, 1998.

For more information on reporting students with medical conditions, see the B.C. Ministry of Education document *Special Education Services: A Manual of Policies, Procedures and Guidelines*, Section E, 1995.

American Psychiatric Association, *Diagnostic and Statistical Manual for Mental Disorders* (4th Ed.), 1994.

Klin, A., and Volkmar, F. R., "Asperger's Syndrome," in *Handbook of Autism and Pervasive Developmental Disorders* (2nd Ed.), 1997.

Learning and behavioural characteristics of students with Asperger's syndrome

AS is characterized by a qualitative impairment in social interaction. People with AS may be keen to relate to others, but do not have the skills, and may approach others in peculiar ways. They frequently lack understanding of social customs and may appear socially awkward, have difficulty with empathy, and misinterpret social cues. They often have the same difficulties as individuals with autism in understanding that other people have their own perceptions, thoughts, and feelings. People with AS are also poor incidental social learners and need explicit instruction in social skills.

Although children with AS usually speak fluently by the time they enter Kindergarten, they often have problems with the complexities of language, including:

- pragmatics (the use of language in social contexts)
- semantics (multiple meanings)
- prosody (the pitch, stress, and rhythm of speech)

One of the common characteristics of people with AS is that they have trouble carrying on social conversations. They may have an advanced vocabulary and talk incessantly about a favourite subject. The topic may be somewhat narrowly defined and the person may have difficulty switching to another topic.

People with AS may have problems communicating with others because they do not naturally learn the rules of conversation. They may:

- interrupt or talk over the speech of others
- make irrelevant comments
- have difficulty initiating and terminating conversations
- use speech characterized by a lack of variation in pitch, stress and rhythm
- use overly pedantic or formal speech, particularly as the student reaches adolescence
- stand too close when talking to someone
- stare, use abnormal body posture, or use other strange body language
- fail to understand gestures and facial expressions of others

T. Attwood, *Asperger's Syndrome: A Guide for Parents and Professsionals*, 1998.

Students with AS are of average to above-average intelligence and may appear quite capable. Many students with AS are relatively proficient in their knowledge of facts, and may have extensive factual information about a subject that absorbs them. However, they demonstrate relative weaknesses in comprehension and abstract thought, as well as in social cognition. Consequently, they do experience some academic problems, particularly with:

- reading comprehension
- problem solving
- organizational skills
- concept development
- making inferences and judgements

In addition, they often have difficulty with cognitive flexibility—that is, their thinking tends to be rigid—and with adapting to change or failure. They do not readily learn from their mistakes.

Students with AS often have difficulties with co-ordination. An estimated 50–90% of people with AS have problems with motor co-ordination.

The affected areas may include locomotion, balance, manual dexterity, handwriting, rapid movements, rhythm, and imitation of movements.

Students with AS may share common characteristics with autism in terms of responses to sensory stimuli. They may be hypersensitive to some stimuli and may engage in unusual behaviours or repetitive behaviours to obtain a specific sensory stimulation.

Students with AS may also be inattentive, easily distracted, and anxious. Many students diagnosed with AS are inattentive and easily distracted and have received a diagnosis of Attention Deficit/ Hyperactivity Disorder at one point in their lives. Anxiety is also a characteristic associated with this syndrome. It may be difficult for the student to understand and adapt to the social demands of school. Appropriate instruction and support can help to alleviate some of the stress.

T. Attwood, *Asperger's Syndrome: A Guide for Parents and Professsionals,* 1998.

Myles, B. S., and Simpson, R.L., *Asperger Syndrome: A Guide for Educators and Parents,* 1998.

Strategies for teaching students with Asperger's syndrome

Some of the strategies for teaching students with autism may be applicable to students with AS. However, it is important to consider the unique learning characteristics of the individual student, provide support when needed, and build on the student's many strengths.

The following chart identifies some specific learning difficulties and suggests a number of possible classroom strategies, adapted from a variety of sources in the literature.

For more information on Attention Deficit/Hyperactivity Disorder, see the Ministry of Education handbook *Teaching Students with Attention Deficit/Hyperactivity Disorder: A Resource Guide for Teachers,* 1996.

Learning Difficulty	Classroom Strategies
Difficulties with language • tendency to make irrelevant comments • tendency to interrupt • tendency to talk on one topic and to talk over the speech of others • difficulty understanding complex language, following directions, and understanding intent of words with multiple meanings	• use *Comic Strip Conversations* (Gray, 1994) to teach conversation skills related to specific problems • teach appropriate opening comments • teach student to seek assistance when confused • teach conversational skills in small group settings • teach rules and cues regarding turn-taking in conversation and when to reply, interrupt, or change the topic • use audio-taped and video-taped conversations • explain metaphors and words with double meanings • encourage the student to ask for an instruction to be repeated, simplified, or written down if he does not understand • pause between instructions and check for understanding • limit oral questions to a number the student can manage • watch videos to identify non-verbal expressions and their meanings
Insistence on sameness	• prepare the student for potential change, wherever possible • use pictures, schedules, and social stories to indicate impending changes
Impairment in social interaction • has difficulty understanding the rules of social interaction • may be naive • interprets literally what is said • difficulty reading the emotions of others • lacks tact • has problems with social distance • has difficulty understanding "unwritten rules" and once learned, may apply them rigidly • lacks awareness of personal space	• provide clear expectations and rules for behaviour • teach (explicitly) the rules of social conduct • teach the student how to interact through social stories, modelling and role-playing • educate peers about how to respond to the student's disability in social interaction • use other children as cues to indicate what to do • encourage co-operative games • provide supervision and support for the student at breaks and recess, as required • use a buddy system to assist the student during non-structured times • teach the student how to start, maintain, and end play • teach flexibility, co-operation, and sharing • teach the students how to monitor their own behaviour • structure social skills groups to provide opportunities for direct instruction on specific skills and to practise actual events • teach relaxation techniques and have a quiet place to go to relax • model and practise appropriate personal space
Restricted range of interests	• limit perseverative discussions and questions • set firm expectations for the classroom, but also provide opportunities for the student to pursue his own interests • incorporate and expand on interest in activities

Poor concentration • is often off task • is distractible • may be disorganized • has difficulty sustaining attention	• provide frequent teacher feedback and redirection • break down assignments • use visual organizers, semantic mapping, and outlining • provide timed work sessions • reduce homework assignments • seat at the front of the classroom • use non-verbal cues to get attention
Poor organizational skills	• use personal schedules and calendars • maintain lists of assignments • help the student use "to do" lists and checklists • place pictures on containers and locker • use picture cues in lockers
Poor motor co-ordination	• involve in fitness activities; student may prefer fitness activities to competitive sports • take slower writing speed into account when giving assignments (length often needs to be reduced) • provide extra time for tests • consider the use of a computer for written assignments, as students may be more skilled at using a keyboard
Academic difficulties • usually average to above-average intelligence • good recall of factual information • areas of difficulty include problem solving, comprehension, and abstract concepts • often strong in work recognition and may learn to read very early, but has difficulty with comprehension • may do well at math facts, but not problem solving	• do not assume that the student has understood simply because she or he can re-state the information • be as concrete as possible in presenting new concepts and abstract material • use activity-based learning where possible • use graphic organizers such as semantic maps, webs • break tasks down into smaller steps or present in another way • provide direct instruction as well as modelling • show examples of what is required • use outlines to help student take notes and organize and categorize information • avoid verbal overload • capitalize on strengths (e.g., memory) • do not assume that student has understood what he or she has read—check for comprehension, supplement instruction, and use visual supports
Emotional vulnerability • may have difficulties coping with the social and emotional demands of school • easily stressed because of inflexibility • prone to anxiety • often have low self-esteem • may have difficulty tolerating making mistakes • may be prone to depression	• may have rage reactions and temper outbursts • provide positive praise and tell the student what she or he does right or well • teach the student to ask for help • teach techniques for coping with difficult situations and for dealing with stress, such as relaxation strategies • use rehearsal strategies • provide experiences in which the person can make choices • help the student to understand her or his behaviours and reactions of others • educate other students • use peer supports such as buddy system and peer support network

Sensory sensitivities	

• most common sensitivities involve sound and touch, but may also include taste, light intensity, colours, and aromas
• types of noise that may be perceived as extremely intense are:
  • sudden, unexpected noises such as a telephone ringing, or fire alarm
  • high-pitched continuous noise
  • confusing, complex, or multiple sounds, such as in shopping centres
	• be aware that normal levels of auditory and visual input can be perceived by the student as too much or too little
	• keep the level of stimulation within the student's ability to cope
	• avoid sounds that are distressing, when possible
	• use music to camouflage certain sounds
	• minimize background noise
	• use ear plugs if noise or reaction is very extreme
	• teach and model relaxation strategies and use of diversions to reduce anxiety
	• provide opportunities and space for quiet time
	• arrange for independent work space that is free of sensory stimuli that bother the student

Students with autism frequently have difficulty with the unknown and may fear the unpredictable. It is difficult for them to take in all of the information presented by a new situation, determine what the expectations are, and then generate appropriate responses. As a result, transitions are often difficult for them and may result in increased anxiety and inappropriate or resistant behaviours. Transitions for students with autism should therefore be carefully and thoughtfully planned. This includes transitions between activities and settings throughout the day, into the school system, from one grade to the next, from one school to another, and to adult life.

It is not possible to provide a program and environment that is free from transitions and free from change, as this is a part of life. The goal is to help the student cope with changes and adapt to a variety of settings. Anxiety can often be decreased and inappropriate behaviours prevented or reduced if the student is prepared for change and transition. The strategies for communication development and the suggestions for instructional approaches in Chapter 4, Teaching Students with Autism, can be used to help them understand and cope with change. It is also important for school staff members who will be working with students with autism to be prepared as they enter the new environment or situation.

Transition into the school system

Typically, parents of a child with autism notify the elementary school of their child's special needs before the regular Kindergarten registration period. Schools and parents should be sure to plan well in advance for the child's entry into kindergarten. Various organizations recommend that February of the preceding school year is a good time to begin this process. Often the child has been in a preschool, child care program, or child development program in a preschool. There may have already been a range of support services for the child and family in place before Kindergarten.

Parents often seek reassurance that the child's supports from the preschool years will continue in the Kindergarten program. They may need assistance in understanding that there may differences between

Queen Alexandra Centre for Children's Health has developed an excellent resource for parents called *Entering the School System: A Transition Planning Workbook*

For more information on the role of parents in planning their child's school program, see *Parent's Guide to Individual Education Planning*, available from the B.C. School Superintendents' Association (604) 687-0590. This handbook is also available on the B.C. Ministry of Education Web site at www.bced.gov.bc.ca/specialed/docs.htm

previous services and school-based support. A school-based team meeting including school staff, parents, and professionals who have been working with the child, such as the supported child care consultant, can be arranged to help convey important information about the child. This will ensure that the family's goals are communicated to the school, and will help the school district to plan resources for the next school year. If any documents are transferred to the school by those currently working with the child, the parents must first sign a release form so that professionals can share this information.

Parents may wish to visit the classroom and talk to the teacher ahead of time. For some children, a visit or several visits to the new setting may be appropriate, so that they can begin to become familiar with the new environment. For some children, a gradual introduction to school in the fall may also ease this challenging transition.

Strategies to help with transitions between activities and settings

Schedules

To minimize anxiety about change, give the student ample warning before any transition. Schedules can be used to prepare the student for changes in activities. It is important to involve the student in referring to the schedule. Go through the schedule with the student, giving a description of what to expect (e.g., first _____, then _____, etc.). This can be done at the beginning of the day, as well as at transition times.

Schedules vary in complexity and length, and should be tailored to the ability of the individual student. They can be written, or use pictures/pictographs or objects to depict certain activities. Implement a method that indicates the completion of an activity, such as turning over a picture card or crossing out an activity.

Providing a signal as a warning of a change

A schedule may not be sufficient to prepare the student for change. Some teachers provide students with a consistent symbol or an object that will be used in the next activity or setting to help them understand what is coming next. For example, when preparing to go to the lunchroom, students can be shown their lunch boxes or bags. When preparing to move from the class to the library, the student can carry a

book as a reminder of the purpose of the change. Using a watch, clock, or timer may also help the student to understand time periods.

Using social stories

Social stories, especially when accompanied by photographs or pictures, are effective in preparing some students for change, and particularly for preparing students for new situations and unfamiliar activities. Visual cues used in combination with verbal instructions can help the student to understand what is expected.

Transitions between grade levels and class transfers

When preparing for the annual transition between grades in elementary school, it is necessary to prepare both the student and the receiving teacher. Preparation for transition should begin in early spring of the school year preceding the one in which the student will be making the transition. The same kinds of issues need to be addressed when students are moving to a new class in the school or to a new community where they will enter a new class.

Preparing the teacher and other classroom staff

The receiving teacher will need to be provided with information about the student's strengths and needs. This can be facilitated through team meetings involving teachers, parents, and teacher assistants. The receiving teacher may also need to be provided with information about autism and the educational implications of the autism thinking style. It is beneficial for the receiving teacher(s) and teacher assistant(s) (if involved) to visit the students in the current classroom environment in order to observe:

- how the student behaves in the current classroom environment
- successful adaptations and modifications to the environment, curriculum, and support
- the visual systems used to support the student
- current instructional strategies that are effective for the student
- the student's level of participation in the activities and social life of the class

Ideally, a planning meeting is conducted to exchange information about the student as well as to discuss goals and instructional strategies and approaches that have been most effective which will be part of the student's IEP for the coming school year. This provides the parents and teachers with an opportunity to discuss goals, instructional strategies, curricular modifications, methods for maintaining appropriate behaviour, and communication. It is preferable to conduct the meeting before the end of the current school year. If the receiving teachers have had an opportunity to meet and observe the student in the current classroom, and if information regarding strengths, needs, and recommended strategies has been exchanged, it is feasible to conduct the planning meeting early in the fall. Preparing a short videotape of the student, with the parent's permission, and presenting it to the receiving teacher, is a creative strategy for providing information for school staff.

In B.C., school districts can access support through the Provincial Outreach Program for Autism and Related Disorders. This organization provides schools with assistance in assessment, program development, and other technical assistance for staff working directly with students with autism and other pervasive developmental disorders. The program provides in-service training for teachers and teacher assistants on:

- characteristics of students with autism
- sensory and motor issues with autism
- communication issues and strategies
- functional behaviour analysis
- social skills instruction
- behaviour change strategies
- positive behaviour supports

To find out more about these outreach services, school personnel should speak to their school district contact for the Provincial Outreach Program for Autism and Related Disorders.

Students can be prepared for the new classroom setting by showing them videotapes or photographs of the new teacher and classroom. It may be helpful to prepare a small scrapbook that the student can refer to over the summer. The student may also make visits to the future classroom. This can be facilitated by the current teacher or teacher assistant, in order to maintain some familiarity.

Current staff can do a great deal to make the transition to the new class work more smoothly. One way to do this is to make sure that the

transition is seen in a positive light by pairing the move with preferred things. For example, familiar furniture or objects from the current classroom can be taken along. The current teacher and the receiving teacher can work together to plan preferred activities and privileges that can be made available to the student in the new setting. As with any future events, students with autism need to know what to expect. Preparing a calendar that clarifies when there will be visits to the new setting and when the student will move to the setting can help with the school-to-school transition.

Transitions between schools

The suggestions for easing transitions between classrooms are also applicable to planning for transitions between schools. However, additional time and preparation may be required, as the student will need to adjust to a whole new building rather than just a new classroom. If the transition is from elementary to secondary school, the student will also need to learn about changes in the way the school operates. For example, the student will need to be prepared for the number of teachers that he or she will have, and the various locations for instruction.

Arrange for the student to visit the school on a number of occasions, if possible. If the student is particularly resistant to change, it may be necessary to introduce new aspects slowly and to go through a process of desensitization and rehearsal. For example, the initial visit may need to be devoted to simply going to the school and going in the front door. On another visit, the student might visit a classroom, then the gymnasium, and later individual classrooms.

Providing the student with a videotape of the new school and written information (appropriate to the student's academic level) may help the student to prepare for the change. Identify key people that the student can talk to or go to for help. Identify ahead of time and enlist the help of peers who may assist the student in making adjustments to the new school and who may be able to accompany the student to various locations in the school.

Teach new skills

When moves to new settings for the education program, such as to the secondary school or a work experience placement, are anticipated well in

advance, students with autism can be taught skills they will need in the new setting. These include:

- how to get to the school or job site independently
- rules in the receiving setting that are different from the current one
- social skills that are needed for the new setting
- strategies for getting around the new setting
- ways to keep possessions organized in the new setting
- strategies for dealing with anxiety in the new setting
- where to go for help, if needed

Transition from secondary school to adult life

It is recommended that transition planning from secondary school to adult life begin as early as possible. The student and parents need time to adjust to the move from elementary school to secondary school, so initial planning for transition to adult life often begins after the first year of secondary school.

A collaborative process

Planning the transition is a collaborative process. Although it may seem that there is ample time to postpone transition planning until the last year or two of secondary school, it is important that parents, school personnel, and representatives from community agencies and support services consider long-term planning for the student. As with all secondary students in B.C., this can be part of the Student Learning Plan in the Career and Personal Planning curriculum beginning in Grade 9 or the equivalent. Areas that will need to be considered include:

- employment options
- post-secondary training/education options
- income support opportunities
- residential options
- transportation needs
- medical needs

- community recreation and leisure options
- maintenance of family/friend relationships
- advocacy/guardianship

Transition planning is a responsibility shared by the parent or guardian and the school. The identification of desired post-school outcomes is the driving force behind transition planning, so the student and family are central to the planning process. To be effective, the planning process should be a collaborative effort involving the student, family, school, and community agencies and services. The desired post-school outcomes will frame the objectives of the IEP and the Student Learning Plan and set the direction for day-to-day activities.

For more information on Student Learning Plans, see the B.C. Ministry of Education curriculum document *Career and Personal Planning 8 to 12* (Integrated Resource Package 1997).

Transition plans are part of the development of the student's IEP in secondary school. As with the other parts of the IEP process, transition goals and strategies should be developed through a meeting of the collaborative team. There are a variety of tools or processes for conducting such a meeting. One approach is to conduct a MAPS meeting. (MAPS refers to the McGill Action Planning System.) During the MAPS meeting, the participants focus on answering seven key questions:

- What is the story of the person? (history)
- What is the dream for the future?
- What is the nightmare? (situations, outcomes to avoid)
- Who is the person? (process for gathering comprehensive information)
- What are his or her strengths, abilities, gifts, and talents?
- What are her or his needs?

What is the plan of action?

Pearpoint, J., et al., *The Inclusion Papers: Strategies to Make Inclusion Work*, 1992.

Regardless of the process or format used to conduct the transition planning meeting, the result should be a plan that addresses:

- desired outcomes for adult life
- specific current needs
- how those needs will be met
- the agencies/persons responsible
- timelines

For more information on transitions, see Freeze, D., *Promoting Successful Transition for Students with Special Needs,* 1995.

Subsequent planning will need to review these things and set short-term goals and objectives that identify what needs to be taught in order to meet the desired adult outcomes.

Role of school personnel

The role of school personnel in helping the student prepare for transition out of the school system is to continue to provide opportunities for the student to develop skills for work and independent living. The day-to-day program and instruction for the student increasingly focus on the developing of functional academic skills and community-based instruction.

The range of expectations will depend on the student's ability and needs. For example, some students with autism may plan to go on to further education or training following secondary school. Consequently, there will be a greater emphasis on academic preparation, in addition to work experience and development of job-related skills and skills for leisure and recreation. For others, the program may focus on work experience, community-based training, and self-care.

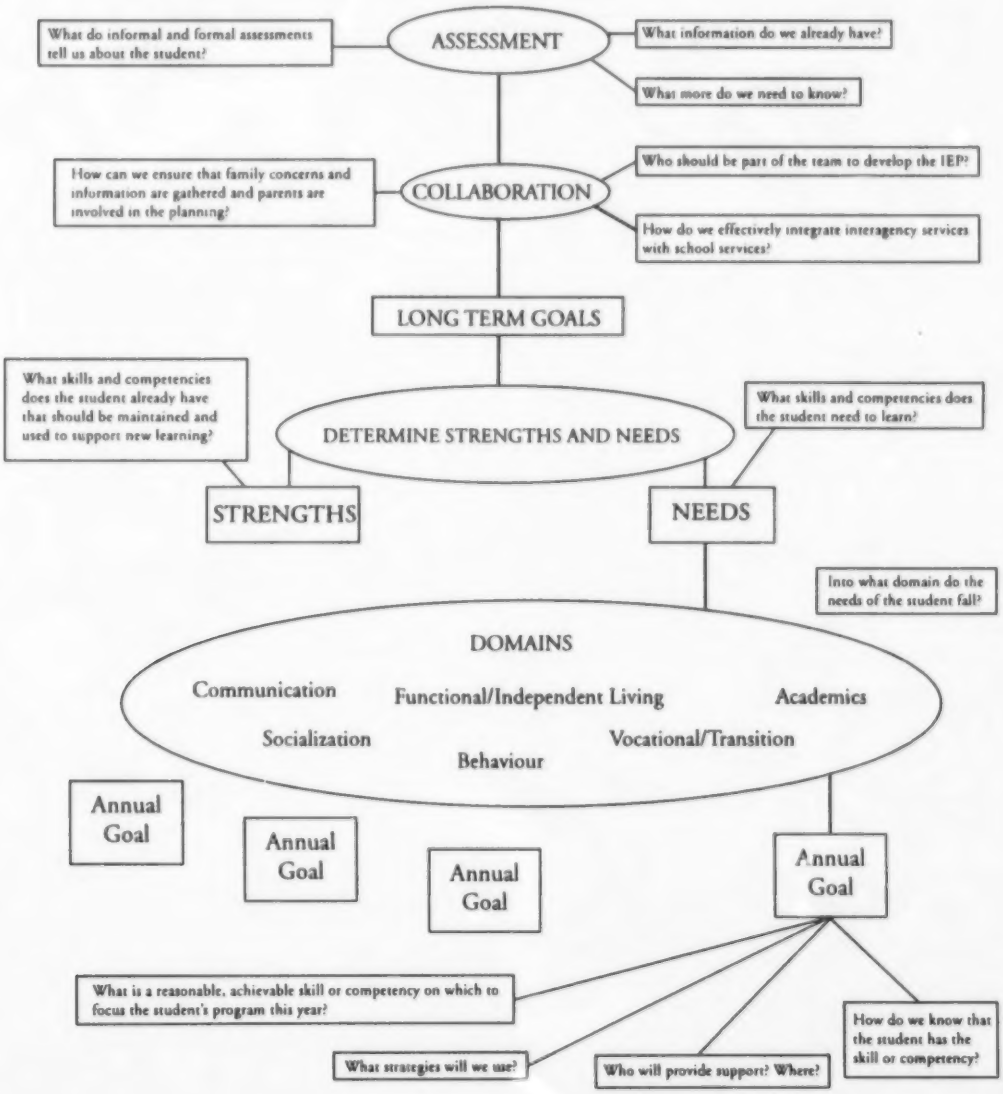
Geneva Centre, *Transitions: Coping Strategies for Individuals with Autism and P.D.D.,* 1994.

Pratt, C., "Transitions: Preparing for a lifetime," in *Autism Training Sourcebook,* 1997.

In general, the school program can prepare the student for transition by:

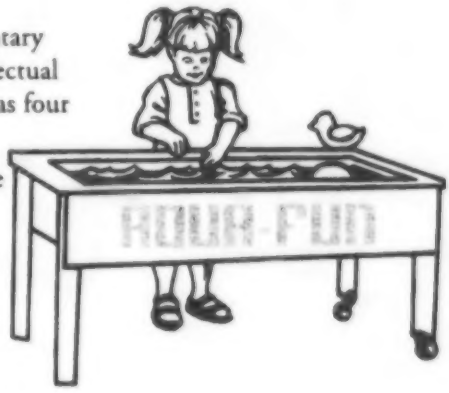
- providing a variety of work experiences to help the individual determine preferences
- encouraging participation in extracurricular activities and social events
- encouraging volunteer work
- helping with developing a resume
- training in social skills for the job place
- teaching appropriate dress and hygiene
- providing on-the-job preparation, once preferences have been established
- training in the use of public transportation
- training in self-management
- teaching functional academics appropriate to the ability level of the student

How can teachers effectively turn all this information into an effective plan to teach students with autism? Developing IEPs is really a process rather than a single activity. It requires gathering information about the student from various kinds of assessments, sharing information and discussing the student amongst relevant people, determining long term life goals, setting shorter term achievable goals, setting objectives to meet those goals, and planning strategies and services. Some practical questions can help guide this process:


What do informal and formal assessments tell us about the student?
ASSESSMENT
What information do we already have?
What more do we need to know?
How can we ensure that family concerns and information are gathered and parents are involved in the planning?
COLLABORATION
Who should be part of the team to develop the IEP?
How do we effectively integrate interagency services with school services?
LONG TERM GOALS
What skills and competencies does the student already have that should be maintained and used to support new learning?
DETERMINE STRENGTHS AND NEEDS
What skills and competencies does the student need to learn?
STRENGTHS
NEEDS
Into what domain do the needs of the student fall?
DOMAINS
Communication
Functional/Independent Living
Academics
Socialization
Vocational/Transition
Behaviour
Annual Goal
Annual Goal
Annual Goal
Annual Goal
What is a reasonable, achievable skill or competency on which to focus the student's program this year?
What strategies will we use?
Who will provide support? Where?
How do we know that the student has the skill or competency?

The following three case studies have been developed to show three very different students with autism disorder. The features of the students in these case studies were derived from several real students in British Columbia. While the information has been significantly altered to preserve confidentiality, the case studies still show the very real needs of students with autism and how teachers can plan to meet those needs.

Karen: A Kindergarten student



Karen has just entered her first year at Grove Elementary School. She received a diagnosis of autism and intellectual disability from B.C. Children's Hospital when she was four years old.

John Akins, Karen's Kindergarten teacher, and Jane Wilson, the teacher assistant who works in John's classroom, observed Karen in her child care placement last June and met with the supported child care consultant who was familiar with Karen's program in the preschool setting.

Karen has been slow in development. She stood at 20 months and walked at 23 months. She developed a pattern of repetitive rocking, which continued until she was four years old. At that age, she developed a behaviour pattern of tantrums that include screaming, kicking, and throwing herself on the floor. Karen becomes agitated at school and at home when the environment becomes busy or noisy. Interestingly, the noises of bouncing balls and running feet in the gym do not bother her. She has tantrums when she is over-stimulated or when she does not get what she wants, but is easily redirected or calmed in a quieter area of the classroom. Stroking her head gently usually calms her. She appears to have a diminished response to pain; for example, when she fell and bruised her knee, she did not seem to notice any pain.

Karen enjoys manipulating sensory play objects such as water and beads, but she does not play functionally with toys in the class or at home unless directed by adults. She spontaneously "talks" on the toy telephone.

Karen's attention span varies, but is especially short for activities with a social component, such as circle time or group stories. She is currently communicating through echolalia, gestures, and limited functional speech: "No," "I need help," and "Get the other one." She makes transitions calmly when she is given advance notice of the change. Karen's parents are particularly interested in the development of Karen's expressive and receptive communication skills.

Karen requires verbal prompts to use the toilet, assistance pulling up her pants, and prompts to wash her hands after toileting. She has never had a toilet accident at school, although occasional accidents persist at home. Karen sometimes runs, so parents and school staff need to be vigilant about doors being closed and to ensure that Karen is supervised closely on the playground.

John Akins, Jane Wilson, and Karen's parents collaborated on an assessment of Karen's likes and dislikes:

LIKES	DISLIKES
• playing with yarn or string (repetitive and self-stimulating play) • playing with beads (stirring with fingers, making a long row; not stringing or making concrete product with beads) • anything that hangs (Venetian blinds, plants that grow downward, strands of glue) • blocks (making tall towers, lining blocks in a row) • water (turning on the water fountain, filling containers, splashing in bathroom sink and water tray) • known routines (snack time, home time), having her head stroked (head-stroking calms tantrum behaviour and she is then able to follow verbal directions) • being near teacher or parent and exploring materials adult is using or demonstrating (touching felt shapes during colour lesson, touching dough during cookie-making) • playing with objects or materials to see how they work, not what their conventional use is (turning the glue in the glue stick to make it go up and down rather than using it to glue something)	• participating in unfamiliar activities (refused to enter gym the first PE period) • expectations of participating in any activity without verbal preparation (prefers "in five minutes we will be....") • loud, unexpected noises (metal scraping sound of playground swing; announcements on the PA system tolerated when at a predictable time) • getting hands dirty (clay, paint, or food) • sitting near other children (at circle time) • being touched by other children • sharing the water tray with other children (may have a tantrum if another child tries to play at the water station when she is there)

INDIVIDUAL EDUCATION PLAN

STUDENT NAME Karen BIRTH DATE 95/12/15 STUDENT NO 10598765

SCHOOL Westbrook Elementary School GRADE/CLASS K

PARENTS/GUARDIANS Betty and Hugh ADDRESS 444 - 360 Third Avenue Parkview, B.C. V5K 1K1

HOME PHONE 555-9876

WORK PHONE 555-1234

PREVIOUS SCHOOL Sunshine Preschool DATE IEP DEVELOPED October 15, 1999

ASSESSMENT /PLANNING INFORMATION

MEDICAL INFORMATION (Relevant to the education program)	
Sunnyhill report, 1998:	
Diagnosis of Autism with intellectual disability	
-Language mostly echolalia, understands simple verbal communication	
-No interest in peers, will approach adults for affection if self initiated	
-Rage behaviours if patterns are broken, inappropriate focus on objects, sometimes destructive	
CURRENT LEVELS OF PERFORMANCE (What is the student able to do? Indicate what assessment was done, when and if "at," "above," "below," relevant age/grade level for academic areas and functional life skills)	
Language: delay in both receptive and expressive language	
-can follow simple oral directions	
-can imitate with echolalia, some situation-appropriate	
Mathematics: makes patterns by lining or stacking objects	
Can use crayons, scissors, paintbrushes, pour water, and put on shoes and jacket with assistance; uses toilet with assistance	
Strengths: (What areas can be built upon and used to support other areas of difficulty?)	Needs: (What are the most important things the student should be learning to do?)
-imitative language	-to further develop receptive language
-strong motor and fine motor coordination	-to develop functional expressive language
-strong attention span for interested activities	-to increase interaction with peers
-interest in how things work	-to increase independence in toileting routines
-imitate drawing shapes	-to decrease tantrums; learn calming strategy
	-to learn to anticipate routines and changes

IEP Review/Report Dates:

(First report) November 10, 1999 (Third Report) April 5, 2000

(Second Report) January 30, 1999 (Year End/Annual) June 1, 2000

STUDENT NAME __Karen____

GOAL/Communication Karen will increase receptive communication skills.		DATE ESTABLISHED Oct. 15/ 999	TEAM MEMBER(S) RESPONSIBLE John Akins, teacher Mr. and Mrs., parents
OBJECTIVES (Individual outcomes related to this goal)	**STRATEGIES and SERVICES (Adaptations, services, location of services, resources to be used)**		**ASSESSMENT OF SUCCESS (Procedures to be used to measure success)**
Karen will follow simple oral directions	Speak to Karen in short phrases Give simple directions of what to do, not what not to do Pause for processing Use visual cues to support oral directions Reinforcement for following directions		Karen follows simple oral directions supported by visual cues without physical prompts
Karen will increase her receptive vocabulary	Use objects in home and school paired with spoken names of objects Teach the paired word and object Rehearse listen-respond for new words at home and at school and reinforce with water play or other desired activity		Karen masters names of 15 new objects in school and home by choosing the correct one when the name is spoken by a variety of people in different settings

GOAL/Communication Karen will increase functional use of oral language.		DATE ESTABLISHED Oct 15/1999	TEAM MEMBER(S) RESPONSIBLE Mrs. Lewis, teacher Mr. Frank, TA
OBJECTIVES (Individual outcomes related to this goal)	**STRATEGIES and SERVICES (Adaptations, services, location of services, resources to be used)**		**ASSESSMENT OF SUCCESS (Procedures to be used to measure success)**
Karen will pair pictures of objects and people and speak the correct names	Create photograph images of people and things in environment Model oral functional communication to get needs met using the photographs (to get food, water play, attention from mother, etc.) Provide instructional opportunities for Karen to use oral language to get needs met—logical reinforcement		Karen uses oral language supported by photographs to get desired objects or activities
Karen will use oral language to interact with a peer	Practice expected language for peer interaction at shared activity supported by photographs Rehearse and reinforce the use of oral language at the activity near peers Support classmates to respond to communication attempts		Karen will use photograph prompts to communicate with peers Karen will attempt to use oral language to interact with peers

STUDENT NAME Karen

GOAL/Behaviour Karen will decrease tantrums and independently use stress management strategy.	DATE ESTABLISHED Oct. 15, 1999	TEAM MEMBER(S) RESPONSIBLE Mr. Akins, teacher Mrs. Wilson, TA Mr. and Mrs.

OUTCOMES/OBJECTIVES (Individual outcomes related to this goal)	STRATEGIES (Adaptations, services, location of services, resources to be used)	ASSESSMENT OF PROGRESS (Procedures to be used to measure success)
Karen will decrease tantrum behaviours (banging, screaming, throwing herself down on the floor)	Carry out functional assessment to ensure that most effective strategies are tried: Begin by charting antecedents and consequences (Determine what she is trying to communicate) Decrease any unnecessary loud noises in classroom and help Karen to learn when noises will normally occur (announcements on PA. recess bell, etc.) Increase use of visual communication by adults so that Karen understands transitions and changes in activities	Karen will decrease tantrums from an average of three per day to an average of one or less per day
Karen will use strategy for calming down when she feels anxious	Teach Karen self-comforting behaviour by pairing it with comfort of adult care-giver rubbing her head	Karen will begin to use self calming technique with verbal prompts (to be determined)

GOAL/Behaviour Karen will increase the amount of time she spends in group classroom activities (circle time, music, stories)	DATE ESTABLISHED Jan. 15, 2000	TEAM MEMBER(S) RESPONSIBLE Mr. Atkins, teacher Mrs. Wilson, TA

OUTCOMES/OBJECTIVES (Individual outcomes related to this goal)	STRATEGIES (Adaptations, services, location of services, resources to be used)	ASSESSMENT OF PROGRESS (Procedures to be used to measure success)
Karen will participate at the beginning of every lesson	Create and use a picture schedule to indicate to Karen the upcoming class activity	Karen will remain in group activity for five minutes of the class lesson
Karen will increase time in group activity	Use signal to allow her to leave and go to bead play, lengthening time gradually Direct teaching and practice of responding to signal	Karen will remain in group lessons until she is signaled to leave (10 minutes in group as a goal)

STUDENT NAME Karen

TEAM MEMBERS

Beth Masters	/school administrator	John Akins	/classroom teacher
Hugh and Betty	/parents	Jane Wilson	/ TA
Rex Bond	/ Resource Teacher	Ellen Branth	/ MCF Social Worker
Stan Uster	/ SLP		/

IEP COORDINATOR: John Akins

YEAR END REVIEW DATE: May 19, 1997

Comments: Karen has made excellent progress in reception language development. When given a few seconds to process instructions, she follows most oral directions without physical prompting. She now has a working expressive vocabulary of nouns representing 30 objects in the classroom and says the names of five classmates. She still has difficulty generalizing these names and nouns to other settings. She has a similar number of home learned words that also do not generalize to school.

Karen eagerly uses her school-home photograph book to communicate wants and needs, but is not yet using it for peer interactions.

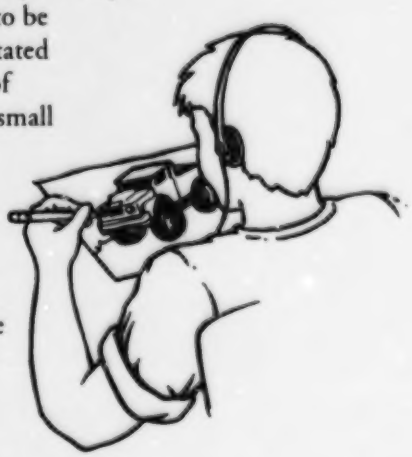
Karen has developed a well established self-comforting behaviour using her teddy bear "Arthur." She uses it without being prompted to calm herself, decreasing tantrums to only about one a week. She takes Arthur to circle time and other group activities and now stays in groups for up to 15 minutes. She has developed a new favourite play form – dressing, feeding and singing to Arthur in the dress-up area. Karen will tolerate one other child in the water play area, but she leaves if more children join the play. She seems better able to cope with proximity to classmates in general. Loud noises are still an issue, as it is hard to predict their occurrence both at home and at school.

Recommendations for next year: Continue to provide direct instruction for using photograph communications book and expanding oral expression supported by book. Coordinate home-school support for receptive vocabulary to encourage generalization of language to new settings (Use other parts of the school as well.) Develop a more age-appropriate self-comforting routine for Karen, if possible. Start work on practical numeracy tasks. Continue to focus on developing peer interaction.

Transition Plans: Karen will visit the Grade 1 class once a week from March to the end of the year. Karen will practise using photograph book on each visit to interact with the Grade 1 teacher. Karen's family will facilitate two visits to the school in August before the first week of school. In Grade 1, Karen will participate in lunchroom helper role by doing routine tasks such as setting out the condiments and arranging the chairs with support staff.

Alan: A Grade 5 Student

Alan is currently integrated full-time into a regular Grade 5 classroom. He was late in achieving some of the developmental milestones of early childhood. He started to walk at 18 months and was slow to talk. His early language was almost exclusively repetitive echolalic speech with limited communicative message. As a young child, Alan's play was repetitive with seeming unawareness of others. He did not like to be touched by or to be close to other children, but he was agitated when separated from his mother. He often used his sense of smell to investigate objects. He had an unusual interest in small objects such as keys or switches.



When Alan was three years old his mother, who is a single parent, consulted with a clinical psychologist. The family has seen the psychologist regularly, and his mother has participated in parent training in behaviour management. Alan was evaluated by a speech and language therapist at age three and has had ongoing speech therapy.

At age 10, Alan still has behaviours that require significant support. He functions in the classroom with adapted assignments and an individualized visual schedule. The classroom routines include a token economy managed by the teacher assistant assigned to the class, with reinforcers to maintain appropriate behaviour. Alan is highly inflexible about the schedule and becomes aggressive about transitions if unexpected changes are made. Problematic behaviours have escalated since the beginning of Grade 5. The behaviours of concern to the teacher, teacher assistant, and Alan's mother include banging on the desk or table, head-banging, agitated response if other people around fail to use specific cues, ignoring adult direction, yelling, and throwing objects. These behaviours pose a threat for physical harm to himself and disrupt the orderly functioning of the classroom. Alan has had interrupted sleep patterns and is showing the same behaviours of concern at home. His mother is having difficulty managing him.

Alan's academic skills are below grade level. His reading decoding is estimated at the Grade 3 level and his math computations skills at the Grade 4 level. Math problem-solving and reading comprehension appear to be at the Grade 2 level. Most academic tasks can be adapted for Alan. It is difficult to evaluate his knowledge using standardized tests or criterion reference measures because he may refuse to do unfamiliar tasks.

Alan likes to make detailed drawings, but tends to repeat the same subjects, usually cars and trucks. He enjoys music, especially listening to quiet music on his Walkman, but will not participate in music activities that require interacting with other students. He has difficulty in gym period and follows a modified physical education curriculum with low-order games assisted by the teacher assistant.

After this year, Alan will be attending a middle school that serves Grades 6–9.

INDIVIDUAL EDUCATION PLAN

STUDENT NAME Alan BIRTH DATE 88/07/02 STUDENT NO 105456789

SCHOOL Oak Lane Elementary School GRADE/CLASS 5

PARENTS/GUARDIANS- Sarah ADDRESS 444 - 360 Third Avenue

Parkview, B.C. V5K 1K1

HOME PHONE 555-3456

WORK PHONE 555-7890

PREVIOUS SCHOOL Eastwood Preschool DATE IEP DEVELOPED October 8, 1999

ASSESSMENT /PLANNING INFORMATION

MEDICAL INFORMATION (Relevant to the education program)	
Sunnyhill report, 1994:	
-Diagnosis of Autism with abnormal language development and social interaction,	
unusual interests, and self-stimulatory behaviours	
-Unusual development with multiple delays in all areas	
-Emerging oppositional behaviour	
CURRENT LEVELS OF PERFORMANCE (What is the student able to do? Indicate what assessment was done, when and if "at," "above," "below," relevant age/grade level for academic areas and functional life skills)	
Language Arts: Reading decoding at Grade 3, comprehension at Grade 2	
-can follow simple written instructions if accompanied by familiar language patterns, examples	
-can use computer for word processing simple stories	
Mathematics: computation at Grade 4, problem solving at Grade 2	
-has mastered addition, subtraction, and multiplication at grade level	
-required visual prompts to attempt problems; refuses to attempt geometry problems	
Strengths: (What areas can be built upon and used to support other areas of difficulty?)	Needs: (What are the most important things the student should be learning to do?)
-following instructions with visual prompts	-to further develop his independence at school
-using word processing programs for writing	-to master strategies for coping with transition
-use of timer to monitor on-task behaviour	-to master a method of calming when anxious
-use of visual schedule to prepare for changes	-to increase responsibility for materials/clothes
	-to decrease reliance on teacher assistant

IEP Review/Report Dates:

(First report) October 30, 1999 (Third Report) March 10, 2000

(Second Report) December 10, 1999 (Year End/Annual) May 20, 2000

STUDENT NAME Alan

GOAL/Communication/Independence To increase use of visual communication strategies to function independently in classroom and at home.	DATE ESTABLISHED Oct. 8/1999	TEAM MEMBER(S) RESPONSIBLE Mrs. Lewis, teacher Mrs. C., parent

OUTCOMES/OBJECTIVES	STRATEGIES (Adaptations, services, location of services, resources to be used)	ASSESSMENT (Progress to objectives)
Alan will make effective use of picture schedules	Develop a more detailed schedule for home and school with sub-tasks Rehearsal and modeling use of schedules Reinforcement for using schedules	Alan follows schedule with same verbal prompts as classmates; Alan follows schedule for dinner routines with verbal prompts
Alan will use positive visual attention getting strategy	Develop a strategy for getting attention in a positive way: "I need attention" /"I do not need attention" picture-sign Rehearse use of picture-sign and reinforce with attention	Alan uses the picture sign for attention and decreases use of banging and throwing objects

GOAL/Communication To increase use of alternative communications strategies and oral language to express wants and needs	DATE ESTABLISHED March 1999	TEAM MEMBER(S) RESPONSIBLE Mrs. Lewis, teacher Mr. Frank, TA

OUTCOMES/OBJECTIVES	STRATEGIES (Adaptations, services, location of services, resources to be used)	ASSESSMENT (Progress to Objectives)
Alan will use a choosing book to express choices and wants	Develop a new laminated choosing book with pictures and sentences Teach, reinforce use of choosing book Provide instructional opportunities for Alan to make choices in classroom	Alan independently uses his choosing book to express his wants and needs
Alan will use oral language to accompany his choosing book to communicate with peers and attend to their use of the book	Practise expected language for peer interaction in cooperative groups Rehearse and reinforce the use of oral language with choosing book during activities in class Support classmates to appropriately use Alan's choosing book to support	Alan will appropriately use five different sentences to communicate with peers using his choosing book for support to communicate Alan will attend to peer's use of his choosing book to

STUDENT NAME Alan

GOAL/Functional Academics To further develop reading and functional mathematics skills	DATE ESTABLISHED Oct. 8, 1999	TEAM MEMBER(S) RESPONSIBLE Mrs. Lewis, teacher

OUTCOMES/OBJECTIVES	STRATEGIES (Adaptations, services, location of services, resources to be used)	ASSESSMENT (Progress to Objectives)
Alan will increase his sight vocabulary	Pre-teach new vocabulary Use classroom computer to create and store personal dictionary and generate personal sentences using new words Add pictorial illustrations to new words in personal dictionary	Alan will demonstrate an increase in sight vocabulary by using new words in sentences
Alan will improve reading comprehension	Direct teaching and practice of comprehension clues strategy using software programs for reading	Alan will successfully use clues strategy once a day
Alan will increase problem solving skills	Adapt problems to personal interest in cars and trucks Develop strategy cards for solving one step problems Rehearse, reinforce use of strategy cards	Alan will independently use strategy cards for one step problems

GOAL/Behaviour Increase use of effective strategies to manage anxiety	DATE ESTABLISHED Oct. 8, 1999	TEAM MEMBER(S) RESPONSIBLE Mrs. Lewis, teacher Mr. Frank, TA Mrs. C., parent

OUTCOMES/OBJECTIVES	STRATEGIES (Adaptations, services, location of services, resources to be used)	ASSESSMENT (Progress to Objectives)
Alan will decrease disruptive behaviours (banging, yelling throwing)	Increase frequency of immediate positive reinforcement for appropriate behaviour using token system in classroom Increase use of visual communication by adults so that instructions and expectations are clear in class and at home Charting of frequency of target behaviours (and the positive alternative behaviours)	Alan will decrease disruptive behaviours 50% by Christmas Break and 75% by June 2000
Alan will use strategy for calming down when he feels anxious	Increase rehearsal trials for use of Walkman to calm down (five times per day at school and five at home when he is calm and able to receive reinforcers)	Alan will successfully use his Walkman at school, at home, and in the car to calm down

STUDENT NAME Alan

Behaviour Strategy Plan for Physical Intervention **Note: All staff implementing this behaviour plan must have specialized training in crisis management and safe holding techniques.**	
Target Behaviour: throwing objects in classroom (putting peers, teachers and materials at risk for harm and seriously disrupting class activities)	
Proactive Plan: positive token system for using acceptable form of communication of wants/needs (access to preferred items in token basket)	
Precursor behaviour: • Alan speaks in a loud voice • appears agitated, increase in motor activity	**Staff responses:** • attempt to redirect Alan to use choosing book to express wants/needs, with token reinforcer if he uses book • reminder of access to tokens for appropriate use of calming activity with Walkman
Target Behaviour: Alan begins to bang and throw objects with no response to the directives of staff	**Crisis Intervention Stage:** • if there is no potential damage to objects or potential harm to individuals, first model self talk and use of choosing book and calming activity • If throwing continues, hold his hands in his lap while restating rule ("No throwing inside the classroom.") • If aggression escalates, use baskethold from behind
Tension Reduction Stage: Redirect Alan to class quiet area, reminding him of calm down procedure, set timer for 5 minutes and let him know that when the timer rings, it will be time to go back to class activity	**Staff Follow-up Response Stage:** • following return to activity, praise for "good work" • later in the day, review the "rule" and model and reinforce the use of choosing book
Monitoring the Physical Intervention Plan: Record frequency and intensity counts on chart; provide feedback to parents when plan is used by phone (James Frank will call and leave voice mail message on home telephone, if necessary), record on school incident report forms for serious incidents **Evaluation of Plan**: Success measured by reduction in throwing behaviour on chart record	
Signatures: parent:_____ teacher:_____ principal:_____ TA_____	

STUDENT NAME Alan

GOAL/Behaviour/Independence To increase level of independence and expectations of responsibility for his materials and task completion	DATE ESTABLISHED Oct. 8, 1999	TEAM MEMBER(S) RESPONSIBLE Mrs. Lewis, teacher Mr. Frank, TA

OUTCOMES/OBJECTIVES (Individual outcomes related to this goal)	STRATEGIES (Adaptations, services, location of services, resources to be used)	ASSESSMENT OF PROGRESS (Procedures to be used to measure success)
Alan will locate his assignments and return completed work independently	Use colour coded duotang folders with pcs symbols to communicate assignments and rules for that task Provide colour coded "finished basket" for finished work	Alan will independently get his work, complete each task and return it when complete.
Alan will ask for a break or help rather than refuse tasks	Use "break" card to ask for brief rest (1-2 minutes)	
Alan will take responsibility for portable schedule during transitions	Work with Alan to fix his schedule so that it can easily be carried Rehearse and reinforce his use of portable schedule to predict and move to next activity Reinforce Alan's use of schedule as he moves between activities and from place to place	Alan will independently use and take his portable schedule to the activities outside the class: recess, lunchroom, gym

IEP TEAM MEMBERS

Will Matthews /school administrator	Ted Lewis /classroom teacher
Sarah /parent	James Frank / TA
Chris Lepine / Resource Teacher	Jerry Richards / MCF
Susan Rice / SLP	/

IEP COORDINATOR: Chris Lepine

STUDENT NAME Alan

YEAR END REVIEW: DATE: May 20, 2000

Comments: Alan has mastered using his red/green symbol to indicate desire for attention and desire to be left alone. He will use his schedule about half of the time with verbal prompts, but still requires physical prompts about half the time to use it. Alan uses his choosing book enthusiastically, but on some days he does not seem to comprehend that he then must follow through with his choices. Needs re-teaching and reinforcement to firm up skill and understanding. He uses choosing book with peers when prompted, but does not initiate use with peers.

When anxious, Alan still uses disruptive behaviours about 50 % of the time. Alan's parents will continue to work on this over the summer and before school starts in September, a meeting will be arranged to discuss use of effective reinforcer for calming time.

Emergency Behaviour Strategy Plan was used about twice a week in October , about once every two weeks in March and only once in May. In June, many changes in schedules and general looser planning for the school increased Alan's anxiety level again. Staff responded with planned re-direction for wants and strong token use.

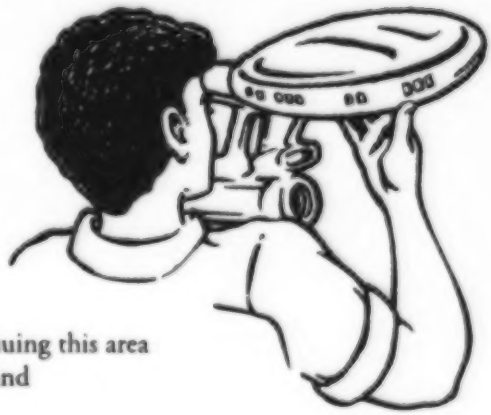
Recommendations for next year: Consider planning a classroom quiet area and strong reinforcement for Alan's appropriate asking to use quiet area independently. Maintain close communication and coordination of strategies between home and school for consistency. Suggested focus for the Grade 6 year: supporting Alan to develop coping skills for new challenges present in the middle school environment (changing classes, use of locker, 4 teachers rather than 1, etc.) and increasing functional reading and writing skills.

Transition Plans:
Alan will continue to need the computer, so arrangements for portable technology should be explored with SET-BC by June 1, 2000 for next year at the middle school. The resource teacher has already visited with Alan and observed him in classroom and playground settings. A volunteer peer helper "buddy" from Grade 6 will visit Alan in June and accompany Alan and his mother for at least two visits to the middle school. Arrangements will be made for the "buddy" to participate in some activities with Alan next year as part of the peer helper program. The teacher assistant(s) assigned to support Alan will have training from for PRP Outreach Resource Program in Delta. (Mrs. Enright, who will be Alan's IEP Coordinator next year has already taken the training and worked supporting students with autism.) During Grade 6–7 Alan's IEP team and parents will help Alan explore areas of strength for future vocational/community participation planning.

Rajinder: A Grade 11 student

Rajinder is a 16-year-old student diagnosed with autism disorder after many years of being mis-labelled as "emotionally disturbed with acting-out behaviour." He has developed oral language, but his very rapid speech without much inflection is difficult to understand. He may use oral language without ensuring that anyone is listening, so communication is not received.

Raj is in a regular Grade 11 program this year for part of his program, and is supported by a teacher assistant who works with some of his classroom teachers. For part of each day, Raj works in the resource room on assignments. He is achieving at a B level on the regular curriculum in math and science, but he has significant difficulty with reading comprehension, which affects his success in English, Social Studies, and other academic subjects. Some assignments have been significantly adapted for Communiciations 11, and Raj hopes to graduate with a Dogwood next year. His receptive and expressive vocabulary are significantly below age-level, but he can master concepts that are represented visually. He is particularly good at using formulas in math but has difficulty knowing which formulas to use for solving a mathematical problem. Raj often has difficulty completing assignments, even in Math and Science, because he is rigid about how they should look, insisting on starting his work over if he makes errors. He is interested in computers and is pursuing this area in his Student Learning Plan for possible future training and employment.



Raj has some strengths as well as difficulties in social relationships. Family relationships are good, except that his poor judgment and inflexibility have had a disruptive effect on the lives of his parents and siblings. He follows family routines well as long as they are predictable. He has poor eye contact when he talks to people outside his family and does not follow social rules for personal space and touching. Raj loves to work independently on the computer and is a Star Trek "trekkie," but he has poor group leisure skills (e.g., he doesn't know how to play board games or sports with others). He is often excessively social with both familiar people and strangers (e.g., he touches them inappropriately, sometimes attempting to kiss them), and has few friends at school because the other students find his behaviour strange, even threatening. Raj has developed self-care skills but doesn't follow them regularly, so

that his hygiene and appearance are a contributing factor in poor peer acceptance.

Raj has serious problems with social judgment, cannot handle his money wisely (will give it to anyone who asks for it), and becomes anxious when routines at home or school are changed. When he is anxous, Raj pulls at his hair and recites dialogue from Star Trek very rapidly. For example, when his normal bus route to school was changed, he refused to get off the bus and recited Star Trek dialogue until the principal came onto the bus and talked him into the school.

Raj's preoccupation with the computer and Star Trek can be a problem at times. He does not realize that other people might not be similarly interested. He often tries to start conversations in the middle of a story plot and does not understand when other people do not know the stories. His parents have started to lock the door to his bedroom at night so Raj does not wander the house, because he has been known to stay on Trekkie chat rooms on the Internet all night.

East Bayfield Secondary School
INDIVIDUAL EDUCATION PLAN

STUDENT NAME **Rajinder** GRADE/CLASS **11**

BIRTH DATE **August 15, 1983** PREVIOUS SCHOOL **Oakwood Secondary School**

STUDENT NO **10598765**

PARENTS/GUARDIANS **Radhuri** ADDRESS **444 W. Merrit Avenue**

Ravi **Renfrew Falls, B.C. V5R 5K5**

HOME PHONE **555-1928** WORK PHONE **555-3746**

BACKGROUND INFORMATION

ASSESSMENT
Report from Dr. Physician, Child Psychiatrist dated May, 1995: • Austism disorder with uneven cognitive functioning • Disorders in social interaction and social communication; failure to develop peer relationships • Lack of perception that others have different points of view • Preoccupation and stereotypical behaviours associated with preoccupation (Star Trek) • Poor eye contact and unusual body language and gestures; inappropriate, at times sexually intrusive touching (See full report with programming suggestions in file.)
ACADEMIC FUNCTIONING, ASSESSMENT
June 1996 -Key Math Grade 8.2, Gates-McGinitie Reading Comprehension Grade 3.6 Grade 7 Gates-McGinitie Spelling, Grade 6.0

STRENGTHS AND/OR INTERESTS	Needs: (What are the most important things the student should be learning to do?)
computer software, hardware and internet mathematics computation basically friendly toward people Star Trek! Space travel	To deal with changes more effectively To increase expressive vocabulary To increase reading and writing skills To develop appropriate social behaviours, and workplace social skills To increase completion of assignments To develop a sense of ownership (self and others) To develop positive ways to assert himself in non-threatening manner

STUDENT NAME **Rajinder** GRADE/CLASS 11

Long Term Goals :

Rajinder will graduate from secondary school and continue his studies in computers at local community college. Rajinder will develop independent living and social skills to enable him to function in the community with a minimum of support.

Timetable for School Year 1999/2000

Subject #	Sem-ester	Subject Area	Teacher	w/ modifications	regular w/ adaptations	regular w/o adapt
1	1	**Communications 11**	**P. O'Grady**			
2	1	**Principals of Math 11**	**T. May**			
3	1	**Info, Tech 11**	**G. Pearson**			
4	1	**Resource/Work Exper.**	**J. Reiche**		**n/a**	
5	2	**Science & Tech 11**	**R. Smith**			
6	2	**Socials 11**	**J Reiche**			
7	2	**Applications of Math 11**	**T. May**			
8	2	**Resource/Work Exper.**	**J. Reiche**		**n/a**	

STUDENT NAME Rajinder GRADE/CLASS 11

Assignment Adaptations: (circle the subject # in which each adaptation should be used)

Adjusted Length of Assignment	(1)	(2)	3	4	(5)	6	7	8
Extra Time to Complete Assignments	(1)	(2)	3	4	(5)	(6)	7	8
Photocopied Notes	1	2	3	4	5	6	7	8
Peer Reader	1	2	3	4	5	6	7	8
Advanced Organizers for note-taking	1	2	3	4	5	6	7	8
Oral/Visual product	1	2	3	4	5	6	7	8
Visual cue cards to aid memory	(1)	(2)	3	4	(5)	6	(7)	8
Calculator	1	2	3	4	5	6	7	8
Computer Word Processor	(1)	2	(3)	4	5	6	7	8
Audio tapes	1	2	3	4	5	6	7	8
Other (please specify)								
_____	1	2	3	4	5	6	7	8
_____	1	2	3	4	5	6	7	8
_____	1	2	3	4	5	6	7	8

Test Adaptations:

Extra Time	(1)	(2)	3	4	(5)	(6)	7	8
Separate Setting	1	2	3	4	5	6	7	8
Reader	1	2	3	4	5	6	7	8
Oral Answers	1	2	3	4	5	6	7	8
Computer Word Processor	(1)	(2)	(3)	4	(5)	(6)	7	8
Other (Please Specify)								
_____	1	2	3	4	5	6	7	8
_____	1	2	3	4	5	6	7	8

Individual Goals for Grade 11

GOAL/Behaviour Skills Raj will develop skills for dealing with change effectively		
OUTCOMES (Outcomes related to this goal)	**STRATEGIES**	**ASSESSMENT OF SUCCESS**
Raj will use computer-created schedule to make smooth changes in plans for his activities	Assist Raj to create a detailed computer-produced schedule with options to plan each day/weekly events with options for change built into it Provide Raj with mediated practice at home and in different school environments in using his schedule for predicting changes Reinforcement for successful use	Raj uses his schedule to document changes in plans and follows successfully without disruptive behaviour at home, on the bus, and at school

GOAL/Communication Raj will increase expressive vocabulary		
OUTCOMES (Outcomes related to this goal)	**STRATEGIES and SERVICES**	**ASSESSMENT OF SUCCESS**
Raj will increase his use of new words in written communications	Provide opportunities to practice using new vocabulary using "Wonder Words" computer program in class Have Raj make personal dictionary using computer word processing Provide opportunities for Raj to use new words learned in weekly journal assignments	Raj will independently use 50 new words in written assignments by January 30, 2000
Raj will increase his use of new words in oral language	Practise new vocabulary in planned conversations with TA and teacher Rehearse and reinforce the use of new words Raj will take his personal dictionary home to share with his parents	Raj will use new vocabulary words in oral communication with teachers, parents and TA

STUDENT NAME Rajinder GRADE/CLASS 11

GOAL/Behaviour	PERSON RESPONSIBLE
Raj will develop a sense of personal space in interactions with other people and a concept of "mine" and "yours."	Mrs. Reich, Resource Teacher Mr. Eady, TA Mr and Mrs, parents Sarah Ellis, Home Support Worker

OUTCOMES (Outcomes related to this goal)	STRATEGIES	ASSESSMENT OF SUCCESS
Raj will distinguish between appropriate touch and inappropriate touch (Note: Raj will be supervised in all school settings by an adult until this objective is accomplished)	Develop social stories to illustrate appropriate and inappropriate touch (shake hands, hug parents, responses to accidental touches) Provide opportunities for Raj to read the stories at home and at school Provide practice by referring to the stories in community settings	Raj will shake hands when greeting people Raj will hug family members without touching personal parts of their bodies Raj will not touch others inappropriately in school or the community
Raj will keep a comfortable space between himself and other people	Teach the concept of personal space by modeling, practice, and reinforcement with a variety of adults and peers in different settings	Raj will stand and sit at a comfortable distance from other people (space to be defined during training)
Raj will demonstrate an understanding of ownership and the difference between his and other people's person and possessions.	Teach the concept of mine and yours using role play and social scripts in a number of settings e.g., he will practise saying "No, that belongs to me."	Raj will use social scripts appropriately to help himself discriminate ownership of his possessions in school, at home and at work site.

STUDENT NAME **Rajinder** GRADE/CLASS 11

GOAL/Transition and Life Skills **Raj will begin developing workplace skills**		**PERSON RESPONSIBLE** **Mrs. Reich, Resource Teacher** **Mr. Pearson, Info-tech Teacher** **Mr. Eady, TA** **Sarah Ellis, Home Support Worker**
OUTCOMES (Outcomes related to this goal)	**STRATEGIES**	**ASSESSMENT OF SUCCESS**
Raj will arrive on time at Work Experience site	Supported practice using schedule and clock Set up self-monitoring strategy with Raj and reinforce for successful use	Raj arrives on time for five days consecutively
Raj will follow written rules for the site	Develop portable rules list for use at work site (five rules maximum) Provide supported practice of rules	Raj refers to rules list independently, follows
Raj will use good hygiene practices at Work Experience site	Have Raj use computer to create hygiene checklists for home, school, and the work site Model use of hygiene practices and prompt review of checklist each day at home and school	Raj follows checklist for personal hygiene independently
Raj will only speak about Star Trek once each day at work site	Plan a strong reinforcer and set up self-monitoring system for Raj to use at work site Provide reinforcement for Raj when he talks about other appropriate subjects at work site Continue to allow Raj to speak as he chooses about Star Trek at home	Raj broadens conversation topics at work site and decreases his conversation about Star Trek
Raj will develop independence at completing assembly tasks needed at Acro Electronics, with up to six steps	Provide opportunities to practise six steps of assembly task required for Acro job, first in resource class Create a visual for school and work site showing each of the six steps required to assemble the components	Raj will assemble materials on the job at Acro using his visual without staff prompting

STUDENT NAME **Rajinder** GRADE/CLASS 11

GOAL/Social Skills **Raj will develop skills for independent living: conversation skills, decision making**		**PERSON RESPONSIBLE** **Mr. Eady, TA** **Sarah Ellis, Home Support Worker**
OUTCOMES (Outcomes related to this goal)	**STRATEGIES**	**ASSESSMENT OF SUCCESS**
Raj will develop practical problem solving skills	Social skills group using *Skillstreaming for the Adolescent* curriculum lessons, practice and role play	Raj will use decision making strategies in natural environments-job site, recreation sites
Raj will increase his conversation skills	Social skills group using *Skillstreaming for the Adolescent* curriculum lessons	Raj will successfully start conversations with peers and fellow workers and maintain for five minutes.

TEAM MEMBERS (name, position and initials indicating attendance at meeting)

W. Matthews /school administrator	P. O'Grady /classroom teacher
Mr. and Mrs. /parents	G. Eady / TA
J. Reiche / Resource Teacher	Sarah Ellis / MCF Home Support Worker
R. Lannigan / SLP	/

IEP COORDINATOR: Mrs. J. Reiche

STUDENT NAME **Rajinder** GRADE/CLASS 11

YEAR END REVIEW: DATE: May 15, 2001

Raj has had a year with some great successes and some on going difficulties.

- He has successfully used his computer to create personalized schedules, and he uses them independently. He continues to raise objection to changes, even when he has created these schedules to reflect them. Another strategy should be explored for next year in consultation with parents, who report similar difficulties at home.
- Schedules displaying plans, including computer time at home--posted in several locations in the house—have helped Raj to comply with family rules about chat rooms.

Raj has made an extensive personal dictionary and used the new words in Communications assignments; however, he has not transferred these words into his work for other courses.

- Oral vocabulary growth has been limited. Practice using his personal vocabulary dictionary in other settings has begun and will continue next year. Raj still does not initiate conversations with peers on topics of interest other than about Star Trek.
- Raj appears to have mastered the difficulty with inappropriate touch. He is starting to grasp the concept of ownership. Significant effort was placed on these goal so that Raj could safely move ahead with transition plans and work experience.
- He still has difficulty making judgements about personal space and requires reminders. Peers have been coached on the effective prompt to remind Raj when he stands or sits too close to them. After Christmas break, staff decided that Raj's development in this area warranted a change in the constant supervision rule. Raj seemed pleased to have earned greater independence. This was rewarded at home by planned chat room time of 60 minutes per week.
- Raj is earning C to C+ grades in his courses with adaptations. He uses his computer for all course work. The trial auditing Applications Math 11 to give him a chance to work on problem solving was marginally successful. When given models for each type of problem, he can successfully carry out the computation steps—deciding on the strategy is still a significant difficulty. Steps in problem solving should be a focus for next year.
- Raj grasps the skills practiced in lessons using *Skillstreaming* activities if they are scripted and practised verbatim. If the situation in which the skill is needed is significantly different, he still needs prompting to use the skill. Further "homework" practising skills in various settings has helped and should be continued.

Transition Plans:

Raj's mastery of the Work Experience assembly tasks and the use of other job-related social skills were both excellent. Acro has asked for Raj to return next year, and staff are planning a Cooperative Education placement for half days in September. TA support at the job site will be faded with a goal of Raj attending the Co-op at Acro independently by November. Jobsite skills needed will be reinforced at school and home. Summer employment opportunities will be explored at Acro Electronics as well. Participating in a community activity should be explored and supported by school and family next school year.

Appendix

This appendix contains forms and charts that may be helpful tools for teachers who are supporting students with autism.

- Likes and dislikes chart—a form for recording student preferences
- Behaviour observation and data collection chart—a form for recording information for a functional assessment
- Hierarchy of prompts—a diagram explaining the range of prompts from least intrusive to most intrusive
- Task analysis—an example of a functional skill broken down into steps and a chart for recording instruction sessions
- Interpretation dictionary—a sample dictionary and a form for developing an individualized dictionary for communication attempts used by a student
- Integrating student's IEP goals with regular class activities—an example of a chart showing how to fit the goals for the student with autism into the regular class plans, and a blank chart template
- Home–school communication book—an example of a communication log used for one student to keep parents and family informed of events affecting the student

Likes and Dislikes Chart: Student Preferences

When planning reinforcers for instruction and behaviour interventions, teachers and others need to know the preferences of students. This chart can be used by the family and school to record the student's preferred activities, sensory stimuli, edibles, social reinforcers, etc. Such information changes, and it should be frequently revised to reflect current likes and dislikes of the student.

Student name:_____ **Date revised:** _____

LIKES	DISLIKES	INDIFFERENCES
Activities:	**Activities:**	**Activities:**
Sensory Stimuli:	**Sensory Stimuli:**	**Sensory Stimuli:**
Edibles:	**Edibles:**	**Edibles:**
Social Reinforcers:	**Social Reinforcers:**	**Social Reinforcers:**

Adapted from *Teaching Students with Autism and Developmental Disorders: A Guide for Staff Training and Development* (1996) by Jo-Anne Seip.

Behaviour Observation and Data Collection Chart for Determining the Function of Behaviours

When determining the function of inappropriate target behaviours in order to plan behaviour change interventions for students, schools need to observe the behaviour and collect information. It is important to document the behaviour as factually as possible. Rather than speculating on the function of behaviour in the absence of good data, it is important to gather facts that are observable and measurable:

Antecedent: events in the environment that occur immediately prior to the target behaviour

Behaviour: actual behaviour, described in specific terms (including duration and intensity)

Consequence: events in the environment that occur directly after the behaviour

A – B – C CHART

Name of student:	**Date:**
Target behaviour:	

Time, setting, social situation	Antecedent event(s)	Behaviour description	Consequence event(s)

Adapted from *Teaching Students with Autism and Developmental Disorders: A Guide for Staff Training and Development* (1996) by Jo-Anne Seip.

Hierarchy of Prompts

Prompts are often used to support learning and behaviour of students with autism disorder. Prompts should be faded as soon as possible in order to help the student grow in independence.

Prompts range from highly intrusive to low in intrusiveness. As learning occurs, teachers should move from high to low on the continuum. Ideally, prompts will be faded completely.

Intrusiveness	Verbal	Gestural	Physical
	Use command word to begin or end step		
Least Intrusive	Use command word to explain part of step		
		Gesture student to begin step or end step	
	Use language to explain part of step	Point to item or items	Touch arm, hand
			Guide arm or hand to the required action
		Gesture full movement of actions required	
			Manipulate arm or hand through beginning of step
Most Intrusive			Manipulate arm, hand, or body through total step

Source: Provincial Outreach Program for Autism and Related Disorders

Task Analysis

(Example of chart used to record information using task analysis)

Functional Skills: Brushing Teeth: Record of instruction sessions

(This is a sample of a task analysis for brushing teeth designed for a 12-year-old boy with autism.)

Teaching instructions: Record prompts used for each task:

PP = physical prompt, VP = verbal directive prompt, 4= independent performance of step

Reinforcement: social praise after each correctly performed step

Month: _____ **Name:** _____

TEACHING SESSION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
DATE															
INITIAL															
TIME PER SESSION															
TIME OF DAY															
1. Get glass, toothbrush and toothpaste from cupboard															
2. Turn on cold water															
3. Pick up and wet toothbrush															
4. Unscrew cap of toothpaste															
5. Put toothpaste on brush															
6. Set tube on counter															
7. Brush upper back teeth in up and down motion 5 times															
8. Brush lower back teeth in up and down motion 5 times															
9. Brush upper and lower front teeth in up and down motion 5 times															
10. Put toothbrush down, and spit into sink															
11. Fill cup															
12. Sip water, do not swallow, swish and spit into sink															
13. Repeat step 12															
14. Put cup down															
15. Rinse brush															
16. Turn off water															
17. Screw cap back on toothbrush															
18. Put material away															
CORRECT/TOTAL:															

Adapted from Functional Skills Curriculum, Provincial Outreach Program for Autism Related Disorders

Interpretation Dictionary

Source: Adapted from Provincial Outreach Program for Autism and Related Disorder

Communication attempts made by students with autism may be misunderstood or mistakenly ignored. These attempts can be analysed and recorded in an individualized interpretation dictionary that all people interacting with the student can use. People can refer to the dictionary to help them understand and interpret the student's communication. Planned responses that support language development are assigned to correspond to each attempt, while still acknowledging the attempts. At the same time, caution should be exercised not to reinforce inappropriate behaviours, even if they are effective communication attempts.

What the student does	What it might mean	How adults will respond
Reaches for food item	asking for the food item	say "want (food item)" and give the student a small sample of the item
Says the utterance "Boo-chm"	asking for computer -time	point to picture of computer on picto-board, and say "computer," allow access to computer
Falls prone on the floor	protesting or refusing	do not respond to the protest, assist student to stand up, saying "stand up," and continue task (Acting on this protest could reinforce this maladaptive behaviour. Teach appropriate protest communication at another time and reinforce.)

_____'s Interpretation Dictionary

STUDENT'S NAME

What _____does	What it might mean	How to respond to_____

Integrating Student's IEP Goals With Regular Class Activities

Once teachers have developed an IEP for a student with autism, including setting individual goals, objectives, and strategies, the next planning challenge is to fit these activities into the regular schedule of the class or classes. Some of the strategies may need to be planned for other settings, but for students who are receiving their programs and services in integrated class placements, the type of format shown below will help teachers plan for implementation of the IEP.

IEP Goals	Regular Class Activities								
	Arrival	Journal Writing	Recess	Language Arts	Lunch	Physical Education	Social Studies	Science	Dismissal
Develop Social Skills	Practise greeting people by name	Use communication book with teacher assistant	Participate in organized games	Take part in co-op reading group	Practise courtesy rules during eating and socializing	Practise taking turns	Work at centre with peer helper	Work at centre with peer helper	Line up with friends to wait for parent
Improve Decision Making	Choose place in line	Pick topic from communication book	Pick between two games	Choose book for group to read	Decide order to eat food	N/A	Decide between two centres	Decide between two centres	Choose who to stand with in line
Staying on Task	Complete routine of storing belongings	Stay on-task for 10 minutes	Stay with the game chosen	Remain in groups during activity	Finish lunch and remain seated for 15 minutes	Stay in group for activity	Stay in each centre for at least 10 minutes	Stay in centre for at least 10 minutes	Complete routines of retrieving all belongings and take home work
Participating in Group Activities	Enter with classmates	N/A	Play with classmates	Answer questions about story, using comm. Book	Help with clean up in groups	Play with peers	Peer pairs	Peer pairs	Exit with classmates
Lengthen Interacting Behaviour	Extend greetings to interaction with comm. Book	connect comm. from two pages in the comm. Book	Stay with game as long as peers do	Use more than one page in book to answer questions	N/A	Practise gesture communicatio n with peers in group	Increase peer session to 15 minutes	Increase peer session to 15 minutes	N/A

A blank form that can be adapted for individual students is included on the next page.

NAME OF STUDENT

Student's IEP Goals	Regular Class Activities								
Goal 1									
Goal 2									
Goal 3									
Goal 4									
Goal 5									

Home–School Communication Book

Teachers and families may decide that a home–school communication system needs to be implemented. Information recorded by the teacher and family should be valuable information to use in instruction, management of behaviour, or personal care of the student. Teachers and parents can work together to make a brief list of key questions that should be answered, and agree on the frequency that they need to be answered and how the communication will travel back and forth. The form should be designed specifically for the student. The following example is adapted from an individualized communication book for a Grade 3 student:

Source: Adapted from material provided by Autism Society of British Columbia

Daily Comment Log **Date:**_____

From Home: _____(signed)

Are there any recent developments or upcoming events that the school should be aware of?

(circle) **Yes / No**

Comments or Concerns:_____

_____

_____

_____

_____

_____

_____

From School:_____(signed)

Participation in today's classroom activities:

Activity	Comment
Circle	
Music/Art	
Language Arts	
Math	
P.E.	
Socials/Science	
Other:	

Concerns:_____

_____

Resources

This section lists recommended key resources for teachers.

Consultative and support services

The Ministry of Education provides support and professional development opportunities for school disticts in British Columbia through:

Provincial Outreach Program for Students with Autism and Related Disorders

4812 Georgia Street
Delta BC V4K 2S9
Telephone: (604) 946-3610
Facsimile: (604) 946-2956

Organizations

Autism Society of BC

200 - 3550 Kingsway
Vancouver BC V5R 5L7
Telephone: (604) 434-0880
Toll-free telephone: 1-888-437-0880
Facsimile: (604) 434-0801

The Vancouver office can provide information about how to contact regional organizations around British Columbia. The Autism Society maintains a resource library, in various media formats, and offers workshops for parents and educators.

Internet resources

Centre for the Study of Autism

http://www/autism.org

This site provides information on autism and related disorders, with numerous features and links to other sites.

Autism Society of America

http://www.autism-society.org

This site provides an overview of autism, information on education students with autism, and additional resources, organizations, list-serves and links.

Print resources

The following books are excellent sources of information on autism and Asperger's syndrome:

A Guide to Successful Employment for Individuals with Autism (1994)
by M. D. Smith, R. G. Belcher, & P. D. Juhrs
Baltimore: Brookes

Asperger Syndrome: A Guide for Educators and Parents (1998)
by B. S. Myles & R. L. Simpson
Austin, TX: Pro-Ed

Asperger's Syndrome. A Guide for Parents and Professionals (1998)
by T. Attwood
London: Jessica Kingsley Publishers

Asperger's Syndrome: A Practical Guide for Teachers (1998)
by V. Cumine, J. Leach, & G. Stephenson
London: David Fulton Publishers

Autism and Asperger Syndrome (1991)
by U. Frith
New York: Cambridge University Press

Autism Training Sourcebook (1997)
from Indiana Resource Center for Autism, Institute for the Study of Developmental Disabilities
Bloomington, IN: Indiana University

Autism/P.D.D.: Introducing Strategies for Parents and Professionals, Creative Ideas during the School Years, Simple Augmentative Communication, Being Creative and Effective (1997)
by Janice I. Adams
Kent Bridge, ON: Adams Publications

Autism/P.D.D.: More Creative Ideas From Age Eight to Early Adulthood (1997)
by Janice I. Adams
Kent Bridge, ON: Adams Publications

Behavioural Intervention for Young Children With Autism (1996)
by C. Maurice (Ed.)
Austin, TX: Pro-Ed

Behavioural Issues in Autism (1994)
by E. Schopler & G. V. Mesibov (Eds.)
New York: Plenum Press

Breakthroughs: How to Reach Students with Autism, a Hands-on How to Manual for Teachers and Parents (1998)
by Karen Sewell
Verona, Wisconsin: Attainment Company, Inc.

Building Bridges through Sensory Integration (1998)
by E. Yack, S. Sutton, & P. Aquilla
Toronto, ON: Print Three, distributed through the Geneva Centre

Choosing Outcomes and Accommodations for Children: A Guide to Educational Planning for Students with Disabilities (1997)
by M. Giangreco, C. Cloninger, and V. Iverson
Toronto, ON: Paul H. Brookes Publish Co.

Comic Strip Conversations (1994)
by C. Gray
Jenison, MI: Jenison Public Schools

Emergence: Labeled Autistic (1986)
by Temple Grandin
New York: Random House

Functional Assessment and Program Development for Problem Behaviour (1997)
by R. Oneill, R. Horner, R. Albin, J. Sprague, K. Story, & S. Newton
Pacific Grove, CA: Brooks/Cole

Handbook of Autism and Pervasive Developmental Disorders (2nd ed.)(1997)
by D. J. Cohen & F. R. Volkmar (Eds.)
New York: John Wiley & Sons

Parent's Guide to Individual Education Planning (1996)
British Columbia Superintendents' Association and Ministry of Education
(For this resource, contact BCSSA at (604) 687-0590)
http://www.educ.gov.bc.ca/specialed/docs.htm

The Picture Exchange Communication System: Training manual (1994)
by L. A. Frost & A. S. Bondy
Cherry Hill, NJ: Pyramid Educational Consultants, Inc.

Point...click...& learn!!! A "User Friendly" Guide to Educational Software Programs for Individuals with Developmental Disabilities (1997)
by C. K. Hileman
Arlington, TX: Future Horizons

Preschool Programs for Children with Autism (1994)
by S. Harris & J. Handleman
Austin, TX: Pro-ed

Social Skills for Students with Autism
by Richard Simpson, et. al.
Reston, VA: Council of Exceptional Children

Social Stories: All New Social Stories Teaching Social Skills (1996)
by C. Gray
Arlington, TX: Future Horizons

The Social Story Book (1993)
by C. Gray
Jenison, MI: Jenison Public Schools

Special Education Services: A Manual of Policies, Procedures and Guidelines (1995)
Ministry of Education, Province of British Columbia
Government of British Columbia
http://www.educ.gov.bc.ca/specialed/docs.htm

Students with Intellectual Disabilities: A Resource Guide for Teachers (1995)
Ministry of Education, Province of British Columbia
Government of British Columbia
http://www.educ.gov.bc.ca/specialed/docs.htm

Taming the Recess Jungle (1993)
by C. Gray
Jenison, MI: Jenison Public Schools

Targeting Autism: What We Know, Don't Know, and Can Do to Help Young Children with Autism and Related Disorders (1998)
by S. Cohen
University of California Press

Teach Me Language: A Language Manual for Children with Autism, Asperger's Syndrome, and Related Developmental Disorders (1996)
by S. Freeman & L. Dake
SKF Books

Teaching Children with Autism: Strategies for Initiating Positive Interactions and Improving Learning Opportunities (1995)
by R. L. Koegel & L. K. Koegel
Baltimore: Brookes

Teaching Children with Autism: Strategies to Enhance Communication and Socialization (1995)
by K. A. Quill
New York: Delmar

Teaching Students with Intellectual Disabilities: A Resource Guide for Teachers (1995)
by Ministry of Education, Province of British Columbia

Government of British Columbia
http://www.educ.gov.bc.ca/specialed/docs.htm

Thinking in Pictures and Other Reports from My Life with Autism (1995)
by Temple Grandin
New York: Random House

Understanding the Nature of Autism: A Practical Guide (1996)
by Janice Janzen
San Antonio, TX: Therapy Skill Builders

Visual Strategies for Improving Communication, Volume 1: Practical Supports for School and Home (1995)
by L. A. Hogdon
Troy, MI: Quirk Roberts

What's Next? Preparing the Student with Autism and Other Developmental Disabilities for Success in the Community
by Carol Gray
Arlington, TX: Horizon Publications

The World of the Autistic Child: Understanding and Treating Autism Spectrum Disorders (1996)
by B. Siegel
New York: Oxford University Press

Video resources

A is for Autism
Films for the Humanities and Sciences, Princeton, NJ (Cartoons made by people with autism to explain what it is like to be autistic)

Building Independence Through the Use of Adaptations and Enablers
Institute for the Study of Developmental Disabilities, Indiana University, Bloomington, IN (Strategies that enable students with autism to function more effectively, including teaching ideas)

Great Expectations: Living with More Able Levels of Pervasive Developmental Disorder
Geneva Centre; Toronto, ON (Developing an individualized approach for higher-functioning students with autism and related disorders)

Teaching Children with Autism and Related Pervasive Developmental Disorders: Looking Beyond the Labels
Metropolitan Toronto School Board, School Programs and Services Department, North York, ON, (416) 397-2509 (Information to foster an understanding of autism and strategies for supporting students with severe difficulties in communication and behaviour)

References and Additional Resources

This section includes both books used in the development of and referred to in the resource guide, and additional resources not listed in *Resources.*

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